Self Assessment

A Tool for Integrated Management

Keith Beasley

PREFACE TO E-VERSION

The text of this book is as originally published, with no changes to main contents or to appendices. Whilst a few changes have taken place in the numbering and detailed contents of standards referred to, their essence (and thus that of this book) remains the same. Likewise, some of the organisations referred to are no longer in existence. Again, this does not affect the gist of the message in this book, nor the practical suggestions provided in it.

Since writing this book the author has been further researching and developing his unique and powerful perspective on 'the spirit of quality'. For further information visit www.keithbeasley.co.uk

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FOREWORD

The basic objective, in terms of legal requirements, of any organisation, whatever it's size, product range or service, is to understand what is expected of it and to have its operations under control. Whilst external auditors still visit to 'check you out', increasingly it is emphasised that the main responsibility for assessments lie in-house: ISO 9000 requires internal audits of the Quality Management System, BS 7750 calls for internal review of Environmental Management System, etc.

The aim of this report is to review the types of audit and assessments that are currently performed and to illustrate how an in-house ('internal') audit/assessment/review system can be used to help prepare for all types of external assessment and, in doing so, help to develop an effective integrated management system.

It is not the objective of this report to list the many laws and standards that relate to assessment activities. This is partly because many of the regulatory requirements for Health and Safety, Product Liability, etc are specific to a given nation, but mainly because to dwell on detailed specifics would obscure the main point of this report - that assessing the management of Reliability, Employee Safety, Environmental Impact, Financial efficiency, Product Safety and of course good old quality, have many common themes. Using British Regulations as illustrations of the requirements from different disciplines, this report addresses the fundamental questions: Who, What, Where, When, Why and How and guides managers and staff, at all levels, in the basic principles of assessment.

Whilst attempts have been made to define terms and abbreviation when they are first used, Appendices have been included as a reference for acronyms and contact details.

Humble apologies to lady readers: to avoid saying "the (unisex) assessor" all the time, I sometimes lapse in 'he' or 'his'. This is in no way meant to imply that ladies do not make good assessors - they do. There is even an argument for having a good proportion of females within any assessment team, to ensure that all perspectives are examined!

The author would like to thank all those friends and colleagues who have encouraged and supported him over the years, and all those who haven't for making him even more determined to get his ideas across.

ABOUT THE AUTHOR

Keith Beasley is a Fellow of the Institute of Quality Assurance and a Chartered Engineer. He has had 15 years of experience in applying quality principles to forefront of technology developments. With a background covering both production and research activities, he is currently with GEC-Marconi Materials Technology (Caswell)* where he has responsibilities for Internal Audit, Product Safety, Reliability and Electrical Safety.

Keith participates in national, European and international standards making, being active in promoting flexibility and common sense in such fora. As chairman of the European standards group concerned with electronic component reliability (CECC/WG-Rel) he has already done much to bridge the gap between quality and reliability disciplines.

This background has given him a firm grounding in regulatory documentation as well as the practical realities of management on which this report is based. This is his second report in the TQM Practitioner Series.

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* The views expressed in this report are those of the author alone and are not necessarily shared by his employer.

PART ONE - WHAT?

CHAPTER 1
WHAT IS SELF ASSESSMENT?

Like all aspects of Total Quality Management (TQM), self assessment varies from company to company depending on the individuals involved, the product or service offered and on numerous other factors. The basic principles however remain the same:

'Self' means it is performed by an organisation, for that organisation, on that same organisation. The organisation may be anything from a one man business to a multinational corporation, a government department to a charity (no longer the same thing!), or a hardware manufacturer to a management consultant. 'Self' means it's up to you when, how and what you assess.

'Assessment' = Review, audit, appraise, etc. The words used tend, traditionally, to be applied to different types of assessment, as discussed in Chapter 3. All terms however mean looking at what you're doing to see if you can do it better. There are many different aspects of a business that can be assessed: How it's managed, how customers are satisfied, how it's run cost effectively, how it's made safe for its staff, etc. This report examines these areas and suggests that by assessing different aspects in a single self assessment then this self assessment process becomes a powerful tool to management improvement.

Self assessment is thus asking yourself searching question about what you're doing, why you're doing it and whether it can be eliminated (if it's unnecessary) or improved (if it's wasteful or in effective). If the questions are not searching, if a business is not prepared to address difficult issues, self assessments become another way of papering over the cracks - this is not their purpose. In these hard economic times, it could be argued that if you don't ask yourself these questions then your customers or regulators, investors or society at large, will.

Self assessment can be considered as a necessary activity aimed at self preservation. Finding and correcting weaknesses in a company operations, before such weaknesses cause the business to fail. It is an indicator as to the health and fitness of an organisation and a gauge to its ability to survive and prosper.

An audit is not something you pass or fail. It should not be seen as a test which have so be undertaken twice a year, but as an on-going evaluation of the effectiveness of an organisation. The purpose of an assessment is to identify areas for improvement. An assessment which reveals little to work on is more a sign of a benign or generous assessor, not an excuse for relaxing!

CHAPTER 2
FIRST, SECOND AND THIRD PARTY ASSESSMENTS

THIRD PARTY

The sort of assessment that many people are familiar with is the third party assessment. The most popular (!) of these at present is the ISO 9000 (in the UK previously BS 5750, ref 1) assessment for Certification of a Quality Management System. The 'Third Party' are organisations such as the British Standards Institute (BSI) and companies including, in the states, Underwriters Labs (UL) and, in the UK, Yarsley or Lloyds; i.e. one of the many assessor bodies which have been authorised to certify the organisations they assess. They are a 'third party' because they are independent of the business they are assessing.

The term 'third party assessor' applies not just to ISO 9000 assessors but also to any other independent certification activity. BSI and other organisations provide, product certification by third party assessment through, for example, the Kitemark scheme and CECC approvals. CECC being the CENELEC Electronic Components Committee, part of CENELEC the European Committee for Electrotechnical Standardisation.

Away from the quality field, Lloyds (with other organisations likely to follow soon) are now offering certification to BS 7750 (ref 2). For this, they perform an Environmental assessment of a business. In the UK, Her Majesties Inspectors of Pollution (HMIP), the Health and Safety Executive (HSE) and the National Audit Office (NAO) all have inspectors who perform specific assessments: Both the HMIP and HSE may examine control of hazardous chemicals, for example. The NAO assesses local councils to ensure that public money is not wasted. Whilst the words and names are different, they are all third party assessors. They provide an independent assessment of a business and, often, have the power to close you down if they don't like what they see.

SECOND PARTY

Second party assessors are your immediate customers. Such assessors are only usually interested in whether or not you are capable of providing what they want. Second party assessors cannot shut you down if unimpressed during an assessment, but major customers (and these are the only ones who would deem it worthwhile to do an assessment) are quite likely to withdraw their business if their assessment uncovers doubts about your ability to make what they want or manage their project. Because they are assessing against a particular need (the supply of a specific product or service), second party assessments may be less broad in their scope but can nether-the-less be extremely thorough, and revealing.

One of the reasons given for third party schemes is the principle that one accredited (third party) assessment could save a number of second party visits. i.e. each customer would see that their supplier is already approved and might judge that an assessment by them is unnecessary, or could at least be restricted to particular concerns of their requirements.

FIRST PARTY

Other terms for first party assessments are self assessments or internal audit. Whilst the 'when' and 'how much' of second and third party assessments are determined outside the organisation being assessed, with first party assessment, it is the organisation's own management that decides. The relationship between second or third party assessments and self assessments is discussed in Chapter 20.

With large organisations, the boundaries between 1st, 2nd and 3rd party assessments can be blurred in terms of what constitutes 'part of the company', but the principle differences remain: A 3rd party assesses to certify, a 2nd party to buy, a 1st party to improve itself.

CHAPTER 3
REVIEW, AUDIT OR ASSESSMENT?

STANDARD DEFINITIONS

In this report I use the terms auditor, assessor, reviewer, etc interchangeably to mean the individual who is performing the assessment. Similarly with audit, review and assessment - to mean the process of performing the assessment, and auditee (etc) to mean the person or organisation being assessed. I make no apology for mixing the words up. This is partly because I get tired of writing "assessment" all the time, and partly because the meanings of these words have got so confused anyway.

Whilst 'review' 'audit' and 'assessment' summon up particular images to most people, the chances are that the picture brought to mind will depend heavily on your background. For self assessment, I suggest a composite meaning embracing and range of definitions from different disciplines, for example:

ISO 8402 (ref 2) defines Quality Audit as:

> *A systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.*

BS 7750 (ref 3) defines Environmental Audit as:

> *A systematic evaluation to determine whether or not environmental performance complies with planned arrangements and whether these arrangements are implemented effectively, and are suitable to fulfil the organisation's environmental policy.*

MAKING AN IMPACT

Those of you involved in planning new buildings will have a slightly different perspective: An Environmental Assessment - an examination of the impact that a new development has on the surrounding environment. But is this different from the definition of 'environmental audit' above? The objective is the same, to see what impact a given set of activities has on the land, air and people around and to assess whether these impacts are acceptable. There are perhaps two differences:

> * An Environmental Audit considers the effectiveness of the management of the organisation or item under review, whilst an environmental assessment looks at impact. In practice, the impact a given development has is directly related to the effectiveness of the management of that development.

* An environmental impact assessment considers what 'might happen if?' whereas an audit looks at what is happening now. Again, these are two sides of the same coin. A good environmental management system will also ask 'what if' questions and environmental impact assessments should be reviewed during and after the development to check the accuracy of prediction and effectiveness of recommendations.

In the UK public sector, it is the Audit Commission that examines the effectiveness of organisations such as local councils:

Audit Commission (ref 4)

> *An independent body, established under the Local Government Finance Act of 1982. The Audit Commission is responsible for the appointment of external auditors to local authorities; has a duty to ensure that local authorities make proper arrangements to secure economy efficiency and effectiveness in their use of resources and has the power to undertake special 'value for money' studies.*

The National Audit Office (NAO) perform a similar function for British Central Government departments. In contrast to the conventional view that a (financial) 'audit' means 'checking the books', here we have a wide ranging assessment. If something might be affecting the efficient running of a public body, the Audit Commission and NAO can, and do, dig. They have a duty to the tax payer to see that our money is not wasted. Like environmental assessors and quality auditors, they are looking for a well run organisation.

BACK TO BASICS

It is useful at this point to revert to a conventional dictionary (ref 5):

The first thing to note is that 'auditor' is linked with 'audition' and we are told to 'see audible' which means "able to be heard". So here we have the fundamental basis of auditing - listening to the evidence. A 'calling to account generally' (my italics). With this as the basic definition, it begs the question as to why the popular image of auditors are accountants poring over balance books. It's a bit like the police relying only on fingerprints.

Of 'assess', our dictionary says 'to fix the amount of; to estimate, judge'. The background to assessment is the determination of taxes to be paid. Given the development of 'Green taxes' and European requirement for 'ECO audits' perhaps we are returning to the root of the word. Whereas an audit is performed on whatever happens to be found, an assessment is usually performed against some preset rule or standard - be it the amount of sulphur dioxide emitted into the atmosphere compared to a laid down maximum, or a quality management system against ISO 9000. Some form of measurement is normally inferred.

'Review' has a more general meaning 'a viewing against: a looking back: a critical examination'. It the context of self assessment, it means making sure we learn from the past.

To conclude, a self assessment is what you want it to be. Whether you call it a review, audit or some other phrase, the objectives and general principles are very similar.

CHAPTER 4
INTEGRATED ASSESSMENT

Traditionally different disciplines have performed their own audits or assessments. Increasingly, however, the similarities between different types of assessment are being recognised and the effectiveness of integrating assessment programmes from quality, environment, finance, etc are being considered.

Many baulk at this idea, and is it not suggested that three or four previously separate audit/assessment functions can be combined into one over-night. On the contrary, integrating different audit types could take many years but can conveniently be encouraged through natural evolution and in parallel with the integration of other management methods and functions.

One of the advantages of integrated self assessment is that you choose what you concentrate on. Problems you know of but don't consider of priority can be put to one side to enable issues, key to the overall business, to be targeted.

Whilst separate assessments encourages isolated thinking of quality, Health & Safety (H&S), financial and environmental issues, an integrated assessment forces staff to see each of these as issues they need to be aware of. From the point of view of efficiency and effectiveness of assessments and work procedures generally it is preferable to ask combined questions, for example:

> *What procedures do you have for ensuring:*
>
> *Your safety*
> *The efficient use of materials used*
> *The customer gets what he wants*

If these aspects of total quality are dealt with in different procedures, it is likely that methods will not be optimised!

An integrated assessment is a tool which both demonstrates and helps to develop a management approach that looks at the business as a whole. So often separate audits identify different points which, by being flagged up at different times and by different people, are considered in isolation. During an integrated self assessment apparent contradictions in procedures are observed and remedial action sought. Such action may well be for safety and quality experts (for example) to get together and agree procedures which satisfy them both!

PART TWO - WHY?

CHAPTER 5
GENERAL OBJECTIVES OF ASSESSMENTS

Whether a self assessment is prompted by a dissatisfied customer, impending ECO or ISO 9000 audit, or a desire to improve the business in all areas, the general objectives are the same; i.e.

* To identify:

    - Weaknesses in the overall management system
    - External requirements which are not being met
    - Any area of waste or inefficiency

* To take action against any problems found

Having identified areas for improvement, the assessment should facilitate the discussion of possible remedies, the agreement of remedial actions and checking that actions have been completed and are effective.

As the revision of ISO 9000 (see Chapter 8) emphasises, there are two distinct aspects to the remedial actions which result from an assessment. These are:

* Corrective Action - Putting right the specific point identified.

* Preventative Action - Making sure the problem doesn't rescuer

For example, if an assessor saw a piece of equipment with a frayed mains lead. The corrective action might be remove the item from service and get it rewired; the preventative actions might include reviewing the system for checking of portable equipment and review of safety hazards in wet areas.

The UK Institute of Chartered Accountants in their audit guide-lines (ref 6) talks of gathering test data that:

> *seeks to provide audit evidence as to the completeness, accuracy and validity of the information contained in the accounting records or in financial statements.*

Change the last line to "quality records" and we have a Quality Assurance (QA) objective. Change it to "Records of environmental monitoring" and we see the aims of environmental assessments.

The annual review of a company would describe achievements in all of these areas. A given manager also has to be aware of budgetary and technical aspects when setting and monitoring targets and milestones. Assessments provide feedback on the effectiveness of policies, procedures and staff in quality & reliability, H&S and the environment as well as financial matters.

CHAPTER 6
AIMS OF SELF ASSESSMENT

The advantages of a integrated self assessment over separate internal audits and reviews for different purposes are that:

* Common failures in different areas of requirement can be identified

* Time spend by both assessor and assessed can be reduced. Since repetitious aspects of assessments (e.g. explaining the management responsibilities and document structure) staff might even stop complaining of 'not another audit'!

A factor that might be considered a disadvantage, is that an integrated self assessment requires either a larger audit team or assessors with a wider knowledge base - this probably means more training for the self assessing auditors, and might put too much responsibility on too few people. This is an issue for careful consideration, and perhaps should bring into question the role of experts in assessments. There are undoubtedly times when experts get so involved in minute detail that they can no longer see the wood for the trees; an assessor with a broader perspective is often more appropriate. Chapter 14 takes up the point.

Each company should define it's own aims for a self assessment programme. This is the main difference from a second or third party assessment which have rigid boundaries of scope. A self assessment may start out as an internal bench-marking exercise as part of a Continuous Improvement exercise or result from a urgent need for a review of Health & Safety procedures (following an accident for example). From such a beginning, assuming the programme is proving useful and effective, extending it to cover other themes (e.g. General H&S into Product Safety) is a logical progression.

The aim of self assessments is to provide a mechanism for exploring the needs for changes in the overall management policy and procedures, and identifying target problem areas.

CHAPTER 7
HEALTH, SAFETY AND THE ENVIRONMENT

THE PRINCIPLES

There are growing number of requirements under the headings of 'Heath and Safety' (H&S) and 'Environmental Matters'. To deal with each of these separately within a management system is neither efficient nor necessary. Whilst the statutes, laws, directives and standards governing these vital aspects of business all demand different specifics, there are many aspects which are similar and which can be managed, and thus reviewed, together.

This is not to say that a quality department or group of assessors is expected to be expert in all H&S or Environmental matters. Because of the huge amount of legislation in each of these areas, it would be unrealistic to expect an assessor to know the letter of all the laws. However, the spirit in each of the regulations is very similar and can be summarised as follows:

* There must be a system in place to control things.

* Those operating the system must be competent to do so.

* Everybody has a responsibility to do their best to satisfy relevant requirements

These issues will be expanded in later chapters. Suffice it to say at this stage that the above are the fundamental issues which assessors need to address when auditing an organisation from a Quality Management viewpoint. The main addition, which itself needs to be audited, is that, to satisfy the competency criteria, suitable expertise in each of these specialist disciplines must exist within the organisation. Assessors can look at the basic principles, and should know enough about H&S and the environment to be aware what might constitute a risk or hazard. If in doubt they would call in an expert.

Any large site should have a resident expert in each of these disciplines, but outside advice (e.g. for an initial review or training) can obviously be sought where necessary. The relevant professional bodies can help in choosing such advisers. Contact details for the following UK bodies are given in Appendix B: Institute of Quality Assurance (IQA), Institute of Environmental Assessment (IEA), Safety and Reliability Society (SRS), Institute of Chartered Accountants (ICA). National standards organisations and trade associations will have details of equivalent organisations in other countries.

THE WRITTEN RULES

In each country there are specific requirements which all companies have to address. Increasingly the standards and regulations concerned are regional: the following European Directives and Regulations are good examples:

* European Community Eco-Management and Audit Scheme Regulation (EMAS)

* General Product Safety Directive (1992)

* Product Liability Directive (1985)

Together with directives on Electromagnetic Compatibility (EMC), Visual Display Units (VDUs), Machines, Toy Safety, etc there is a long and growing list that any company covered by relevant regulations should already be aware of. Assessors within such companies should similarly be aware, for example, that VDUs and their operators must be ergonomically positioned.

Whilst it is beyond the scope of this report to review all regulatory requirements, a few features of UK national laws are now given:

* Environmental Protection Act 1990

This requires Integrated Pollution Control (IPC) of 'polluting and complex industrial processes'. i.e. discharges to land, water and air must be considered together to determine the least damaging option. Companies must address these issues through the principles of Best Practical Environmental Option (BPEO) and Best Available Techniques Not Entailing Excessive Cost (BATNEEC). Techniques include points on design, process control, training, etc. For further guidance see ref 7.

* Control of Industrial Major Accident Hazards (Regulations) 1984 (CIMAH)

Where an accident may have wide ranging hazards (e.g. chemical spillage), the industry responsible has to analyse the potential risks e.g. through Environmental Risk Assessment, FTA (Fault Tree Analysis - see Chapter 29) or HAZOP (Hazard and Operability studies) and demonstrate their control. Whilst initially concerned with impact on human safety, environmental effects are now being increasingly emphasised. Further guidance is provided in ref 8.

* Health and Safety at Work etc., Act 1974 (HSWA)

Concerned, for example, with risks of fire and explosion, danger of getting trapped in moving mechanical parts.

* Consumer Protection Act (1987)

The UK implementation of the EC Directive on Product Liability allows, for example, that any individual injured, by a product not providing the safety that a person was entitled to expect, when the product was supplied, can recover damages. i.e. if a consumer is harmed by a product, operated as instructed, then they can rightly claim compensation.

* Electricity at Work Regulations 1989 (EAWR)

Regulation 4(2) for example requires:

All systems to be maintained so as to prevent, so far as is reasonably practicable, danger.

The UK Health and Safety Executive (HSE) in their guidance notes (ref 9) explain, for example, that any system where contact with voltages above 50V AC or 100V DC may give rise to dangerous shocks and thus require protection. Advice on Residual Current Detectors (RCDs) is also given. Both these topics can be easily reviewed during self assessments.

* Control of Substances Hazardous to Health Regulations 1985 (COSHH)

This addresses such questions as "What chemicals are used in a given area?", "What sort of hazards to they represent?" and "Do the users of the chemicals understand and control these situations?"

Whilst specific rules will apply in other regions of the world, the basic principles are similar across the globe. Each company must however be aware of which laws are relevant. For multi-national companies trying to satisfy a range of requirements on different sites, this can be a significant activity in itself. However, the act of comparing different national requirements can often help to identify the key issue. Many professional bodies publish guidance on the application of these laws to their industry sectors.

BENEFITS

Using self assessment as part of the management in these areas can result in two significant benefits:

* A demonstrable control over Product Safety and Environmental impact can help reduce insurance premiums. Increasingly insurance companies, in determining the cost of Liability insurance, will look at both claims made and at the companies approach to the above legislation.

* The cost of addressing and managing these issues 'up front' will be significantly less than any of the following results of not focussing on them:

Cleaning up after a chemical spillage or other Environmental accident.

Repairing, reworking or recalling products with poor quality or reliability.

Fines and Compensation resulting from an injury caused in lack of attention to product safety or occupational safety.

Thus, as well as being legal requirements, failure to seriously consider any of these issue could have significant financial implications, not to mention resulting adverse publicity. Whilst performing self assessments will not, on its own, satisfy any of these needs, when performed professionally as part of a committed response to regulatory requirements, they provide an important input to the review and improvement process.

CHAPTER 8
ISO 9000

ISO REVISED

In 1994 the key documents in the ISO 9000 series were revised. When the new standard was implemented many of the previously different (and greatly confusing) numbers used by different national standards bodies were removed. Thus the European EN 29000 has become EN ISO 9000 and BS5750 has become BS EN ISO 9000. The auditing requirements in the revised standard have not changed much, but the following changes of emphasis have occurred:

* Independence: The only requirement for independence in the new standard is that internal auditors should not be involved in the activity being audited. This means that ISO assessors will be happy so long as you're not assessing your own work. ISO 9000: 1987 contained a general statement on the need for the independence of quality system personnel which has been removed; this reflects the move away from separate quality departments and responsibility for quality being increasingly vested in the manufacturing or service personnel.

* Audit follow-up: Not only must corrective actions be seen to be complete, but there is now a requirement in ISO 9000 to check that they have been effective. This is aimed at stopping the, not unusual, practice of changing a document (for example) merely to satisfy an audit actions rather than thinking about the action and doing it properly. Like many ISO 9000 requirements, such a clause shouldn't be necessary: to undertake audit actions without purpose is a total waste of time to all concerned.

Further description of changes in the 1994 revision of ISO 9000 is outside the scope of this report. Readers are directed to their National standards bodies who will be able to provide guidance on the changes.

ISO 9000 REVISED AGAIN!

The current (1994) revision of ISO 9000 has included few major changes. A more significant review of the standard is however underway. Known as the 'Phase II Revision' and likely to be published in 1998, this revision will aim to:

* Simplify the structure of ISO 9000 series standards

* Apply, more readily, to a wider range of businesses

* Reflect best industry practice and moves towards TQM

The standards groups responsible for ISO 9000 is already improving its liaison with other standards groups concerned with the environment, reliability etc. It is thus likely

that future editions of ISO 9000 will embrace the Integrated Management principles discussed in chapter twelve and further emphasise the importance of self assessment.

CHAPTER 9
AWARDS

QUALITY AWARDS

Awards are currently a major part of the quality scene both in Europe and America. There is little doubt that many companies have enhanced their reputation through success in such schemes and improved their businesses as a result of all the hard work that went into gaining the award. It must be remembered though, that a Quality Award, no matter how prestigious, is not an end in itself.

Using awards schemes as the basis for an internal TQM or other improvement programme is however a valid approach to raising awareness and promoting an interest in quality related issues.

Each award scheme has an associated model of a 'Good TQM company' - it's view of what's important in a business. Applicants for the award are obviously judged against these models and against the criteria set out by the award sponsors. A given business might decide whether to go for an award, and which one by asking the following questions:

* Will going for the award improve the business? This question includes asking whether the award model is appropriate. There are many routes to an efficient, effective, business, not everybody sees the principles embodied in Quality Awards as the key or only elements.

* Is having the award worthwhile? Besides the cost of any quality improvements necessary to be a serious award contender, the cost of applying (in terms of application fee, preparation of supporting material, etc) may not be insignificant. Will any publicity resulting from success be of value? The regional coverage of the award need to be considered, as does the fact that you may not be sufficiently well placed to gain much publicity!

Having said all this, the two main award have very high public profiles and represent a high level of agreement on what constitutes a well run organisation. These are:

* The European Quality Award (EQA) run by the European Foundation for Quality Management (EFQM). This award, the Foundation and the European Model for Quality Management are fully described in ref 10.

* The Malcolm Baldridge Award, open to all US based companies.

In addition, a number of major companies also run their own awards for suppliers. Whilst there is no choice on whether you enter (assuming you want that business) again winning such awards, from the likes of Ford, can be prestigious.

AWARDS IN OTHER DISCIPLINES

Similar awards also exist for other aspects of company performance. These may be sponsored by major customers (e.g. British Telecom sponsor an environmental award) or professional institutes as part of their promotional activities. Such schemes tend to be nationally based as the following UK examples illustrate:

* Occupational Safety Award organised by ROSPA - the Royal Society for the Prevention of Accidents

* Manufacturing Excellence Awards run jointly by the Institutions of Mechanical and Electrical Engineers

All such schemes, whatever their central theme, require commitment to win. Self Assessment provides an example of such a driving force in action. Whilst running for an award may have benefits, such as helping to focus the staff, they are perhaps best seen, not as a primary objective in a TQM programme, but as a useful by-product in building a better company.

CHAPTER 10
STAFF APPRAISAL & PERSONNEL SELF DEVELOPMENT

A self assessment programme integrated with staff development provides the opportunity for ensuring that each person is doing a job that suits their particular skills and abilities, and that any weaknesses are identified. Once a staff member and his line management can see why that person is not performing very well then appropriate training and/or counselling can be arranged. Where, for example, an employee has good ideas but is afraid to put them forward (as is often the case) then an Assertiveness Course might be required. Both that employee and their superiors may (for example) also need training on the principles of Continuous Improvement and team building.

In choosing new staff, Personnel departments often rely on Personality Questionnaires to determine suitable candidates. Whether someone does a good job depends on many aspects, including training, motivation and attitude. Because of the many parallels between guides to character and management assessment factors, such tools can be used throughout an employees service. For example:

* Choosing the right career

* Career change

* Making the most of retirement

The following questions, typical of Personality Questionnaires illustrate the link with self assessments:

I tend to be very irritable   True or False?

A "True" response from a given staff member may explain why his or her performance tends to be erratic: nobody does so good a job when they get wound up over something. A responsive personnel department will encourage staff to admit such failings and arrange counselling to find the root cause of the irritability. Again, anybody not admitting such a weakness is doing nobody any favours. Promotions are rarely awarded to those who cannot keep cool in a crisis.

Would you describe yourself as intuitive?

A "Yes" answer from somebody employed to analyse test results might indicate a poor choice of role, unless they are also well trained in, and comfortable with, data manipulation. Sorting the wheat from the chaff of facts and figures often requires both logic and flashes of inspiration!

Of cause, personality questionnaires are themselves subjective and need to be used with caution, but when used as an extra tool, could add an extra dimension to self assessments.

CHAPTER 11
TQM & CONTINUOUS IMPROVEMENT (CI)

CONTINUOUS ASSESSMENT

A key concept within TQM is Continuous Improvement (CI). There is always room for improvement. The cycle

    Measure - Assess - Improve - Monitor -

is continually repeated, each cycle improving the procedure, process or other monitored operation. Within each cycle, efficient and effective assessment is vital to the success of the CI programme. Self Assessment is often employed as a key tool in a CI programme.

CI can be applied to a process, management method or to the control of either of these. The in-process control of a plating process (for example) illustrates how continuous improvement can be developed:

Conventional end-of-line testing, progresses to SPC/control charts, which develops into real-time automatic control

This progression in the manner of control is continuous improvement of the method of process control. In addition, increasing the tightness of parametric limits will, in conjunction with increased process understanding, improve control of the process itself. Gradually tightening limits and matching them to output requirements is a more direct example of CI. Both applications of CI can be examined in self assessments.

Such approaches are fine for production processes where control inputs and outputs are readily measurable physical quantities. For service providers and many management operations, such quantifiable approaches to CI are often very difficult to implement. Continuous self-assessment provides an answer:

The key point about the plating example was that the process was being measured in real-time. Neither time nor sub-standard product was wasted whilst assessment was performed.

TOTAL MANAGEMENT

There is sometimes debate as to whether TQM means Management of Total Quality or Total Management of Quality. Perhaps it should be the Quality of Total Management: how different, often conflicting requirement, of a business are integrated into an effective operation. Addressing this question could be a specific task of a self assessment programme.

Whilst many of the ideas developed in this report build on the basic principles of TQM, a review of these points is outside its scope. Readers are referred to other reports in the TQM Practitioner Series, for example ref 11.

CHAPTER 12
INTEGRATED MANAGEMENT

Waste occurs not just in a manufacturing processes and in the physical aspects of a business but also in administrative procedures and management itself. A look at the proportion of costs attributed to the wages of administrators and management often illustrates the scope for waste ... and thus for waste reduction. Since savings in management time could greatly improve the effectiveness of individual managers and thus the business, assessments need to look for waste here as well as in manufacturing, procurement, energy usage, etc.

Why, for example, is it necessary to have separate procedures defining Health & Safety concerns, Environmental controls and QA requirements? True, top level policy documents will refer to different statutory or standard requirements, but at the day to day level, a given operator or manager wants a single document from which to work. Combining four previously separate and repetitious or even conflicting documents into one is an example of saving effort and improving procedures which comes under the 'Integrated Management Heading'.

The following is an example which a self assessment could pick up and recommend action on:

* A data sheet describing a product is generated to send to customers. Internally a separate version of the data sheet is turned into a fully controlled document. The customer is also sent a separate sheet of handling instructions and Health and Safety information.

* Why cannot the data sheet contain the H&S and handling information? It may even be possible to combine the internal and external documents, after all, our in-house staff have as much right as the customer to know about the safety hazards; and customers often require issue control over the date they receive.

The reasons such integrated approaches are not as widespread as common sense would predict include the following:

* Empire building - it is not unusual for a manager to insist that his staff are the only ones who can do a given job purely because he wants to keep control of a big department. Such an attitude can lead to significant walls being built between departments. Where this leads to poor communications or other inefficiencies, assessments should highlight the fact.

* Fear - individuals may feel uneasy at taking on additional roles. This can be countered by explaining that becoming aware of other issues can make a job more interesting and enable a given staff member to see how he fits into the overall organisation . . . and how he impacts on what the end customer sees.

* General lack of awareness - maybe through one of the above reasons or personal choice, an individual or department has become isolated from other areas. Again this is a danger sign which assessors should pick up on. Quality, safety and reliability are all part of the design of a product or service. All staff has a responsibility to others in the business to warn them of hazards or risks. Integrated management builds bridges between disciplines, not walls!

Just as documentation (as in the example above) can be utilised to cover different aspects of the Total Quality of a business, so other aspects of management have huge potential for reduction of repetition between disciplines. The following can usefully considered during assessments:

* Communications - Appendix D1 gives an assessment checklist which considered 'Communication' as a process which embraces the requirements of H&S, QA, etc. That staff are not familiar with business plans or policy on EWR for example, may be a fault in the management of communication, rather than a fault of the management to determine a policy. Similar questions could obviously be asked of relationships with suppliers.

* Attitudes - Any staff member who thinks he is always right is a potential hazard to the safety of his colleagues and/or to the safety and reliability of any process or product he is associated with. An employee with an open mind, on the other hand, who is prepared to listen to advice and watch out for risk areas is far more likely to help the business identify and tackle such risk areas.

PART THREE - WHO?

CHAPTER 13
WHO SHOULD CARRY OUT SELF ASSESSMENTS?

Traditionally, the Quality Department would carry out Quality audits, the Accounts Department Financial audits, the Safety Officer audits of Health & Safety features, etc. Such distinctions are becoming less significant.

With TQM we are each responsible for the quality of our own work. Quality Departments become a Quality Executive and one or two staff providing quality related services. Whilst this central QA function may still have authority and expertise, the day to day assessment of product, project and service quality is vested in those who provide the service or product.

Similarly, with cost centre accounting, each department or project manager is held responsible for his budget. Managers at increasingly lower levels are expected to monitor spends and ensure costs are kept down. Satisfying the tax man and shareholders may still be a duty of a central finance function but, as with quality, day to day financial planning and monitoring is the responsibility of those who do the work.

In the Health and Safety (H&S) field, British Law (see Chapter 7) calls upon each and every employee to take reasonable care for their own H&S. Those whose work has any impact on product safety are also requires to reduce risks and eliminate hazards.

In all areas of our work the responsibility for doing the right thing, whether it be for financial or safety's sake or some other total quality feature, is being placed on those whose decisions or actions directly influence these factors.

From this point of view, anybody should be capable of performing self assessments. So long as the parallels between the different requirements are understood i.e. assessors are trained in the general methods of auditing and in the general principles of those disciplines in which they are not expert.

Assuming suitable training in assessment procedures (e.g. as a UL or BSI Internal Auditor) assessors should:

* Be respected by auditees - auditing is not a job to give to someone who's no good at anything else!

* Be open minded - e.g. they should be prepared to accept that there are many ways of satisfying given requirements.

* Be intuitive - i.e. to be aware when a smoke screen is being put up, to know what question to ask to open up difficult areas.

* Be persistent but patient and fair - i.e. be prepared to push for details when they are not forthcoming, but do so in a friendly, non-antagonistic manner

* Possess and utilise a sense of humour - if the relationship between auditee and auditor gets heavy, a laugh can lighten proceedings - but not at the expense of the auditee. If all else fails, blame BSI, UL or the European Commission!

CHAPTER 14
CHOOSING A TEAM

THE USE OF EXPERTS

In law, such as that for Product Liability, judgement is made on whether you act 'reasonably'. If reasonable precautions are taken to prevent an accident, for example, then it is unlikely that you will be punished harshly. If, on the other hand, an individual is negligent, then fines and imprisonment can be expected. The job of an assessor is to decide whether procedures are reasonable and whether staff are competent and whether reasonable care has not been taken. The same principle applies whether the assessor is considering risks of a product bursting into flames or a project going significantly over budget. Does it need an expert to answer such a question?

Experts may be necessary when looking at detailed technical issues (such as, for example, which of a range of complex chemicals require what special storage), but any auditor possessing common sense would question the use of a bottle of chemicals to hold open a door! If the worst came to the worst, and a case went to court, it would be a body of 'good men and true' who would decide.

Quality auditors used to be likened to the police - those who enforced the law. A more realistic analogy would be to members of a jury. Jurors are not experts. Since assessors might be considered as internal jurors, it follows that they do not been to be qualified accountants, quality managers or COSHH experts.

ISO 100011 (ref 12) includes the following as attributes of a good auditor:

> *The ability to remain true to the purpose of the audit without fear or favour.*
> *Treat concerned personnel in a way that will best achieve the audit purpose*

Where experts are not used to perform assessments, they should always be on hand as back-ups. Assessors are not substitutes for experts but their extra eyes and ears.

TEAMS

In an ISO 9000 context, an audit team is the group of auditors, lead by a 'lead assessor' who visit your site to assessor you. When assessing a large organisation, the team may comprise of 3 or 4 auditors, each with particular expertise - in, for example, a particular technological area such as software. This team may stay for two or three days.

The same approach could be adopted internally for self-assessments, but is not necessary. A given audit could be performed by a single auditor. This has the advantage that most assessing situations would be a one-on-one with a consequentially better chance of open and frank exchange of view. A mob-handed

audit team often has the effect of making auditees fearful with resulting raising of barriers and unwillingness to say more than is necessary.

My own preference is for individual auditors chosen from a team comprising of established managers from around the site or business. This means that they will be aware of company objectives, of general management principles, and thus have sufficient stature to obtain a serious response from the assessee. Members of such a team would take it in turns to assess given areas. Each assessor is chosen for general abilities (see Chapter 13) but has specific skill and interests which will be brought into play in their assessments. Thus, over a period of a few years, a given areas will have been assessed by a range of individuals each seeing things from a slightly different perspective.

A little knowledge is a dangerous thing?

One of the argument used against letting 'general' assessors loose on safety audits is that they do not know enough about safety regulations to be able to decide whether a given areas is 'safe' or not. This is quite reasonable, and assessors would be right to feel uneasy about taking on such a responsibility. The aim of an integrated assessment however is not to say "this area is safe" or "that area produces good quality product", but rather to say "These observations indicate that safety and/or product quality and/or environmental impact could be improved".

The company management and each individual has responsibilities under law (e.g. the Health and Safety at Work etc., Act 1974) with respect to safety. No amount of 'successful' assessments take away that responsibility.

In practice, an assessor applying common sense and with basic training in each of the aspects he is to be assessing (quality, product safety, electrical safety, hazardous substances, etc) will probably identify 90% of the hazards that an expert would locate in the same assessment. Compared with relying on the experts to do all the audits, this has the following advantages:

* It frees the expert to investigate the tricky areas where greater knowledge and experience are needed.

* It brings any observations on one aspect of the assessment (safety, quality, etc) into the overall context of general management practice. Common causes of failures in different systems can thus be identified and procedures that tackle all aspects of a business as an integral whole can be pursued.

ASSESSMENT PROGRAMME MANAGER

The choice of assessor and of scope for a particular assessment is normally the responsibility of the manager in charge of the overall self assessment programme. This manager will have developed the programme based on a good feel for all those aspects (H&S, Financial, etc) to be covered by the assessment. Such a person need to be pro-active in developing the self assessments and be able to motivate the assessors.

CHAPTER 15
CHOOSING WHO TO ASSESS

So, we have a team of trained, eager (!) assessors and a business to assess - where do we start? This depends somewhat on the circumstances that lead to setting up the team, but a planned series of assessments is essential so that the assessors can plan their time and all aspects of the business can be assessed. Typically each assessor may perform 2 assessments a year and each department covered once in a 2 year period. i.e. The assessing team are only part time assessors and thus do not become isolated from day to day needs of the business or those other staff members that they assess.

In order to ensure a full coverage of topics and organisational groups, the assessment programme manager, when initiating a new audit, may need to advise an assessor of who (an individual), what (a product or project) or where (physical area) he should concentrate during the assessment. In deciding this, the following factors need to be considered:

* Whether a manager or quality representative requires an independent assessment of a particular area. e.g. a quality engineer might want to prepare for a forthcoming customer audit on a particular product line, or the Safety Officer may be worried that his procedures are not being fully applied by a certain group. The choice of areas for audit must be flexible enough to take account of changed priorities. The whole objective of an integrated self assessment programme is that no other system level or procedural audits should be necessary.

* Where previous assessments identified problems which need further monitoring. Whilst corrective actions (e.g. label a quarantine store) can be readily verified, longer term actions (like set up a system for ...) may take months to complete: Procedures have to be changed and operated; re-assessment may need to cover such features.

* In looking for patterns and systematic problems, a cross-section of departments, or shifts, or projects may need to be assessed.

Whether best-case, worst-case or typical samples of activities are followed during an assessment will vary from time to time: Best case, where staff are known to do their best to implement policy and procedures, will indicate whether a system is workable; Worst case, where difficulties are known to exist, can be used to show how bad things might be. All such groups need to be tackled eventually, but to concentrate totally on the hard-nuts may be demoralising for assessors and not particularly efficient.

Choosing a typical area to assess is suitable for pre-assessments (see Chapter 20), since it will give an indication as to what an external assessors is likely to find. There is however no general rule and the programme manager needs to take time to weigh up possibilities rather than follow a pre-determined plan.

CHAPTER 16
WHO REVIEWS AND ACTIONS?

The question of deciding which observations require attention and what the resulting actions should be depends very much on the organisation being assessed and the level of authority of the individuals involved. As a minimum, it is desirable that the following are party to the decision:

* The assessor - to ensure that the observation and objection to current practice are fully understood

* The assessed - so that any extenuating circumstances can be explained!

* The person responsible for the areas being assessed e.g. an area or department manager. Their aim is to ensure that any resulting actions are realistic and that time-scales and personnel allocated to complete corrective actions are reasonable.

There is some debate as to whether the individual actioned to correct an assessment non-conformity (or any action resulting from an assessment) should personally agree their actions. The argument for leaving the responsibility with the area manager is that the manager should know the workload and abilities of their staff and be in close communications with them - to go direct to their subordinate might be undermining their authority.

I personally favour letting the manager take the decision but getting the actioned person to countersign their action to show that they know what is expected of them.

An efficient management of an assessment encourages all involved to do their bit. It is, for example, desirable for reports of audits to be circulated as quickly after an assessment as possible - before the comments made during the assessment are forgotten. It is similarly advisable to circulate a summary of agreed actions to everybody involved. "I didn't know" should be no excuse for incomplete actions.

A summary of actions and any points that might have implications to forthcoming external audits or key business objectives (e.g. major orders) should be highlighted to senior management.

Actual actions are best placed on the individual most involved in the day to day issue identified, or on the staff member primarily responsible, as a reinforcement of the concept of 'ownership' of the problem and thus the solution. Identifying the most suitable person to tackle a problem found in an assessment is a key point in ensuring their effectiveness. Note however that putting actions where they belong and giving such actions priority, requires a positive, supportive, management approach. Looking for the right actionee is not a matter of looking for a scapegoat!

CHAPTER 17
THE ULTIMATE SELF ASSESSMENT

WHO AM I?

Self assessments can be performed at any level - by a business on itself, by a top level of management on themselves, by a small group or department on itself . . . .or by an individual as a personal self assessment.

The level of stress, frustration and general dissatisfaction with their working life is causing many individuals to ask "What I am doing here?". Given that an organisation is only as good as its employees, such self examination has to be it the interest of both the business and the individual.

SHOULDERING OUR RESPONSIBILITIES

Suppose we are looking at the effectiveness of our own department and realise that 'The buck stops here'. The following questions illustrate how we might apply self assessment to our own functioning:

> *When I need to make decision do I?*
>
> *a) Side-track the issue and work on something else*
> *b) Pass the buck and let somebody else answer the question*
> *c) Pontificate*
> *d) Make a clear decision and make sure people know what that decision is and how it was reached*

Clearly the last choice is the desirable one from the business view point, but how many of us can honestly answer "d"? With so much legislation now placing responsibility on managers and individuals to "take all reasonable care" and demonstrate commitment and understanding of potential risks and hazards, we can not afford to sit on problems and hope they will go away. Besides, a problem buried under a mountain of paperwork, or bouncing between different in-trays, is still a problem that needs to be tackled. It will still be festering at the back of our minds and adding to our stress levels. It is inefficient of our time and mental capacity and thus of company resources to hesitate on decisions that need to be made.

It is worth pursuing this issue further by asking why we don't like making decisions. There are usually two main causes:

* We're afraid to. We fear the consequences of making the wrong decision. But have we actually thought though the possible scenarios? Suppose we have to decide whether or not to buy and install some safety guards for all the tools in a workshop. We worry that we'll be over budget and the finance director will jump up and down on us. In the meantime little Jimmy puts a drill through his hand and sues the company.

Now is when you need to be afraid - of what the judge is going to say to you! In fact, the budget need not have been exceeded since only half the machines are ever used and the rest could be sold for scrap to pay for the guards on those that are used!

* We don't possess all the information or knowledge. A valid reason for not making a decision, but not for pontificating or putting it to one side. If we need more data we ask for it. If we need training we make it clear that the risk remains until we get it. Note however that this does not mean passing the buck. If the decision is ours, it remains our. Far too much time and effort is wasted trying to dodge responsibility.

DEPENDABILITY

When purchasing a piece of electronic equipment, whether at home or at work, we will be concerned as to its reliability, how often it needs servicing, whether it can be relied upon, and so on. Similar questions can be asked of our staff ... and of ourselves. For example:

> *When I say I'll do something I do it   True or False?*

Think about it. Can you staff rely on your word or are you constantly letting them down. If managers expect staff to be loyal and respectful, they have to earn it.

When things go wrong, who takes the blame? When an external auditor finds something wrong, he will not be impressed by a manager who tears a strip off the poor operator who was found out. He will be far more inclined to leniency if the manger takes full responsibility for the actions of his staff and takes an action himself to train them better, or whatever is necessary. Getting angry solves nothing. Whether unpalatable comments are coming from an assessor, colleagues or our own sub-conscious, we need to ask ourselves:

> *Am I a good listener?*

It is sometimes said that a TQM programme is worthless without the support of senior management. I disagree. Whatever is going on above us in an organisation, we can all improve ourselves. By setting an example we might encourage others to follow suit i.e. it is possible to have a 'Bottom-up' approach to TQM whearby individuals are continually self improving and thus raising the general level of performance of a business.

PART FOUR - WHEN?

CHAPTER 18
TO WARN OR NOT TO WARN?

Should an assessor drop in to perform his assessment unannounced? As with many of the questions that I pose in this report, the answer is "It depends". There is no right way or wrong way to conduct an assessment. The approach taken for any given assessment will depend on what the particular objectives of an assessments are, the nature of the area being assessed, and so on. If there is a suspicion that a particular department only gets its act together when they know an assessment is due, then a surprise audit may be in order. If however the area to be assessed is known to be particularly short-staffed through no fault of their own, then a more sympathetic approach is called for.

A balance can perhaps be reached so that pre-assessment 'getting things straight' is discouraged but staff will be available to talk to the assessor. It is quite flattering for an assessor to find that everything has been made ready for him, and giving ample warning of an assessment in an area suspected of slacking can be very motivating, but the most useful assessments are those that give a typical example of the way that area works.

In practice, even if the manager of an area has been warned that an assessor is to visit, this message (sometimes deliberately, sometimes not) may not have reached the rest of a department. An assessor needs to be prepared for operators, engineers, etc who don't know what an assessment is, let alone be prepared for it. Some staff might even panic and start telling you all sorts of things! Listen politely and make relevant notes by all means, but don't forget to explain what your doing and what is expected of the person being questioned.

It is worth noting that whilst most external assessors do warn of their visits, some are not necessarily obliged to do so. Drawing the parallel to collecting criminal evidence again, 'plain clothes policemen' are even possible. Whilst it might be considered 'sneaky' to just wonder around and take notes without telling anybody you're there, this could be considered fair tactics so long as those observed are given a chance to explain what they were doing.

CHAPTER 19
PLANNING

ISO 9000 calls for a planned system of audits, the objective being to show that the assessment function itself is well managed. Planning an assessment programme should ensure that:

* All physical areas are covered over a given period of time

* Performance against each relevant statute or standard (e.g. ECO Audit, each ISO 9000 clause, etc) are all covered in a suitable period, 12 months being typical.

Other advantages of a planned sequence of assessments is that assessors know what is expected of them and can plan their own time accordingly.

INTEGRATED ASSESSMENTS

Besides being an integration of quality audits, environmental reviews and H&S audits, self assessments can be integrated at many other levels:

* With external (second and third party) assessments - see Chapter 20.

* With management reviews and control procedures - this is particularly relevant in terms of corrective actions; see for example Chapter 17.

* With staff appraisals - see Chapter 10.

This integration may be at any, or a combination, of the following stages:

* Planning - e.g. timing of assessments to feed into other activities and/or act as monitor of other actions

* The assessment itself - e.g. joint audit between the site self assessment team and an H&S expert

* Review and remedial actions - all corrective actions, from whatever source, need to be co-ordinated. e.g. if a self assessment has observed inadequate H&S guidance in a customer specification, and that customer has also asked for a revision to that document to include other changes, it makes sense to incorporate both changes in the same revision.

Arranging such integration can take a significant amount of time and effort to ensure that the result is a co-ordinated, efficient process, but failure to do so is likely to result in significant duplication of effort and/or conflict of interest. Each of the above aspects of a business are all, individually, essential; the more self consistent and integrated they are, the less chance of wasteful management operations.

CHAPTER 20
PRE-ASSESSMENT

PREPARING FOR EXTERNAL ASSESSMENTS

A primary role of internal audits or self assessments is to check out your organisation, or part of it, prior to an external audit. It some industry sectors (e.g. the electronics industry - see ref 13) it is now a requirement of some approval schemes that the business assesses itself and formally declares that it is ready for external audit before the third party assessor will visit. One of the reasons for this is that assessing companies were finding that they were being called to perform an audit long before the company was ready. Whilst many assessors are only to happy to visit firms preparing for assessment and advice them on a consultancy basis, this would not normally be part of an audit ... or be included in the assessment fee!

Where a given self assessment (e.g. one assessor in one specific area) is performed as a preparatory audit, the following points should be considered:

* The scope of the internal assessment should mirror as closely as possible that of the forthcoming external audit. The impact on the overall company self assessment programme (in terms of other areas being missed as a result) will need to be determined by the assessment manager and allowed for in other, future, assessments.

* The relative timing will need to be carefully considered. In most cases sufficient time will need to be allowed between internal and external assessment to complete remedial actions resulting from the self assessment. How long this might take depends on the pressure to get the external audit completed and the amount of work that might be required.

* Where the external assessment is to use a particular checklist, the same list should be used for the prior internal assessment. In the case of CECC Process Approval (ref 13) the standard against which approval is to be granted actually includes a checklist specific to the activity being assessed. In other cases, the external assessors, be they customers or certifying bodies, will usually have a checklist that can be made available to auditees on request.

CHAPTER 21
FLEXIBILITY AND RESPONSIVENESS

The above use of self assessment as a preparation for customer or third part assessments, is a good example of how a flexible self assessment programme should respond to the needs of the business. Like any good management technique a self assessment programme, whilst planned and structured, needs to be flexible. The manager responsible needs to balance the overall objectives of the programme with short term assessment needs to ensure efficient use of assessor resources. Besides preparing for external assessments as discussed above, the following situations may be embraced by a self assessment activity:

* Following an accident - to establish if that was an isolated occurrence or an indication of a systematic problem.

* To prepare an overview of a business for a new senior management.

* The introduction of a new product, process or service - for example as part of an internal approval procedure before an external launch.

* Concerns of a given manager over a specific project, area or group of people. e.g. the Safety Officer suspects that he is not being kept informed of all 'near misses' and needs more evidence than he can collect on his own.

It is said that a primary requirement to succeed in today's economic and technical climate is to be able to manage change. Assessors need to be aware of changes at the corporate or standards level and to ensure during assessments that others are responding accordingly. Whilst assessors should in no way replace direct line-management or other communication methods, they can play a useful role in helping a business adapt to changing circumstances.

PART FIVE - WHERE?

CHAPTER 22
WHICH AREAS?

The questions of 'who' and 'where' an auditors goes with his checklist are obviously closely linked. The objective is, over a period of time, to examine each different physical location, and each type of area (e.g. laboratory, administrative office, etc). Since we are looking at the total business, all areas are subject to assessment. The workshop that makes the jigs and the cleaners who polish the work surfaces may be just as critical to achieving the best operation as a designer.

An inspector of pollution will be more interested in the drains and extract chimneys than the drawing office, but each provides clues to the total business effectiveness. Traces of heavy metals in the outgoing water-courses are not only signs of ineffective environmental control, but of poor attitude to Health and Safety and also indicates a waste of valuable chemicals due to inadequate process controls.

It is normal, in determining an audit programme, to look at the organisational structure and to assess areas that correspond to functional management. This is certainly useful in relating assessment observation to those who are responsible for them, but it many businesses, particularly those that date back decades, there will often be little cubby-holes, hidden rooms or areas which only the occupants know about. It may be that there is good reason for that particular activity to be away from prying eyes, but an assessor should still be allowed access unless there is a very good reason why not.

Special areas may require special expertise from an assessor. For example:

* Cleanrooms - in the electronics, biotechnology and medical fields, the use of special rooms with filtered air and special clothing is essential. To control such areas all unnecessary personnel are excluded. The effectiveness of such areas, and often the activities within them are very specialised and may be outside the understanding of most assessors. Training or experience of cleanroom practice may be required to justify entry into such areas.

* Secure areas - whilst a security expert may be needed to assess the effectiveness of security arrangements, the work within such areas is still part of the business and subject to the quality, H&S and other regulations and company objectives. "It's a secure area. You can't go in" should sound warning bells to a self assessment team. It may be sensible to keep third parties out of secure areas, and security checks of assessors would obviously be in order, but any group that cuts itself off from the outside world (even with good reason) may also cut itself off from the good working practices which could make it more effective.

CHAPTER 23
AUDIT TRAIL

FOLLOWING YOUR NOSE

It could be argued that it doesn't so much matter where you go so long as the route taken and places seen are recorded. This 'path' of enquiry is often called an 'audit trail'. It is the equivalent to the policeman's note book which records who was questioned, what they said and what pieces of evidence were examined. So long as the objectives of an assessment are met (i.e. areas for improvement are noted) assessors, particularly in the self assessment situation, should be given reasonable freedom to pursue any line of enquiry that seems most likely to get to the root of any problem perceived by the assessor.

An assessor does however need to realise when he's heading down a blind alley - or on a wiled goose chase! It is not unknown for assessees to deliberately steer an assessor along one path purely to prevent attention being focused away from some other area. Assessors need to be aware of this danger and make sure the audit trail they follow is of their own choosing!

Similarly, assessors may become personally interested in a topic which is of little relevance to the assessment. Again, this is to be avoided and assessors are warned to keep to the job in hand.

GOING BACKWARDS

Surprisingly going backwards in an audit is a very useful approach! A conventional quality auditor will often identify a product shipment and ask to be guided back through its history, so checking all records and procedures related to that product's manufacture.

Similarly, the observation of a hazardous chemical in a waste stream would prompt pollution assessors to ask "Where did this come from". It is not enough to observe an undesirable situation: an assessor must find the cause of it. The real cause. For example:

Assessor: Why are all those tins of paint by the waste skip?

Assessee: The rubbish man refused to take them

Assessor: Yes, but why are they being thrown away?

Assessee: It's got lead in. We can't use it any more

Assessor: But these tins are not that old, why were they ordered?

Assessee: Somebody made a cock-up on the order

Assessor: Why?

etc., etc.!

CHAPTER 24
SHOP FLOOR OR OFFICE?

The real answer to the question of "where do we assess" is "wherever you need to"! There are no general rules. Evidence from both managers offices and shop floor may be equally valuable. Often it is how two pieces of evidence do (or don't) match up that indicates whether a given subject is adequately covered or not.

Two basic principles of quality auditing are important i.e. as an assessor we need to know:

* Are there procedures for ensuring that Regulation XYZ is satisfied?

and

* Are these procedures followed?

A manager may answer 'yes' to both, whilst the guy doing the job, when shown the document identified by the manager, might respond "Yes, but we don't actually do that". Sound familiar? Besides observing that the issued document isn't being used, the assessor may well ask "Why didn't the manager know this and do something about it?" Why prepare a document that isn't being used? This is an example of waste of time and effort at a more fundamental level: Documents being written because they have to be, not because they are needed.

An assessor must thus, preferable on each issue he is questioning, determine both policy and practice . . . . and whether they correlate. This will usually entail talking to those in charge and getting down to where the real work is performed. On average, an assessors time should be spread fairly evenly between the two.

CHAPTER 25
DEPTH AND BREADTH

GETTING THE OVER-VIEW

Unless the self assessment programme has been instigated with a narrow scope, one of the whole purposes is to provide a broad picture on the state of a company: are there any major weaknesses or company wide issues which need serious attention? To answer such a question in a reasonable timescale (months rather than years) the first assessments of the programme may need to concentrate on 'getting a feel' for the effectiveness of management and procedures in the assessed area. This cannot be achieved by delving deep in a single area or by interviewing only one or two staff during the course of an assessment.

It may be the self assessment programme manager who pieces together the picture from a range of assessments in order to get the corporate over-view, but each assessor should be encouraged not just to look for specific area in need of attention but to look for common concerns between different staff members and between different departments. i.e. to determine whether a given problem is due to on individual who is poorly trained (or being awkward) or whether it reflects a systematic problem; is this an issue which only senior management can tackle, or is it a local issue to the department being assessed?

LOOKING AT THE DETAIL

At the other end of the scale, assessors need to be aware that procedures, however nicely documented, are of little use if they are not followed. Records of a given piece of work are of little use if identities and times (for example) are inaccurately recorded. Whilst looking for trends (see above) can be subjective, detailed evidence of procedures being ignored is essential.

The level of detail that an assessor delves down to, has to be left to the assessor to decide in a given situation, but if, for example, he is examining calibration and wants to know if a given instrument is capable of performing the test under assessment, then it is probably desirable that measurement uncertainties, machine and item specifications, etc are examined - at least on one or two parameters. Engineers who say "Oh no problem" but have no data to support it may indicate a lack of attention to this issue. Identifying specific parameters which are not being adequately measured is necessary to prompt specific product/project remedial action.

KEEPING A BALANCE

Over a given period (say 12 months) both of the above extremes will need to be adopted, either by different assessor, on different occasions or in different areas. The assessment manager needs to perform an often difficult balancing act: too much in depth digging and fundamental matters of policy and principle may be missed; too much emphasis on philosophy and general approach and the practical methods of applying them may go unchecked and remain ineffective. Well balanced assessments will help develop well balanced business.

PART SIX - HOW?

CHAPTER 26
CHECKLIST PRINCIPLES

STARTING POINT

A checklist is an aide memoir. Or perhaps I should say "A checklist is only an aide memoir". All too often an assessor will take his or her checklist, ask the questions on it, tick the 'Yes' or 'No' column and move on to the next question. This is a typical example of 'letter of the law' quality; it is of little use to auditor or auditee.

A good checklist should provide a framework from which an assessor can develop the assessment to suit that particular situation. It jogs the memory as to what topics need to be covered and provides an opening question. If the answer given does not really address the point, or if the assessor does not understand the answer, it is not only in order to ask additional question, but an essential part of conducting a full assessment.

YES OR NO?

To imaging that a typical checklist question can be satisfied with a simple 'Yes' or 'No' answer is to miss the whole point of assessments. Even in a certification type assessment there are grey areas. However much objective evidence an assessor has found, the decision on whether this constitutes sufficient evidence is still subjective. The doubts need to be aired. 'Sometimes' or 'In preparation' may well be acceptable answers, so long as such phrases are quantified. For example, a question may ask about documentation of a test procedure. The response might be "Here's an example of our production procedures. On research jobs the engineers use their note books". Strictly speaking the answer is "Not always", but most assessors would consider this a reasonable answer - so long as such note books were in evidence. A good example of this approach is CECC 00 804 (ref 14) which makes the following points:

Often a 'No' answer may be perfectly acceptable in a particular instance. Depending on the answer given, auditors are encouraged to look for the following additional information:

For questions answered 'Yes', objective evidence to support the responses, e.g. issued documents, data on batch cards...

For questions answered 'No', justification for such a response, e.g. evidence that the requirement is not applicable due to the scope of the company's operations, type of equipment used, etc

The best checklists are those which have sufficient space on them for an assessor to make notes against the relevant question, as they perform the assessment. The audit

trail (see above) should be recorded and the reference of any documents seen, or staff spoken to, made. The fact that this is written onto the checklist will be registered by the auditee who will then realise that this is serious!

CHAPTER 27
CHOOSING YOUR CHECKLIST

DON'T RE-INVENT THE WHEEL

Where an appropriate checklist exists, use it. Many industry sectors have developed their own checklist to include things that are prime concern to that industry. Many such checklists are based on ISO 9000, and as such may not include some non quality related items, but offer a good starting point for an integrated self assessment checklist. Good examples are the following from the electronics industry:

    CECC 200 000 series Process Assessment Schedules (e.g. ref 15)

CECC 00 804 - Interpretation of EN ISO 9000 Reliability Aspects for Electronic Components (ref 14)

This latter document will be of use to anyone wishing to use checklist questions related to product reliability. CECC 00804 illustrates well how a good quality management system can have a positive impact on the ability of an item to survive long term service.

Where sector specific checklist are not available, there will often be an application guide to ISO 9000 which emphasises points for a given industry to consider. Medical devices and Nursing Homes are just two examples of other areas that provide such guidance. Trade association should have details of publications relevant to their business sector.

Customised checklists are often the answer. Take an existing list, so that compatibility can be maintained and publicised, and add in your own extra questions. Where self assessments are used as a preparation for external assessments it is particularly useful to have the same checklist as the third party will use.

NOT APPLICABLE

If an checklist is available that asks all the necessary questions plus some that are not relevant to your business, then "not applicable" is an acceptable response, but only if this can be justified. For example a checklist may ask about control of an autoclave in a particular steriliastion or test procedure: If an autoclave is not used then 'not applicable' is obviously an acceptable answer. If however a domestic pressure cooker is used for the job, then the question should be answered in full. As with most aspects of assessing, common sense must prevail.

CHAPTER 28
THE SUB-CONSCIOUS CHECKLIST

USING THE SUBJECTIVE ELEMENT

Over lunch during an ISO 9000 re-assessment I was discussing, with our assessor, how the performance of companies is measured. We agreed that even when we gather all the quantitative data possible, it can be very difficult to decide whether or not things are acceptable. "It's all subjective" he admitted.

Facts and figures, text and documents can be made to show what you want them to. The well known expression on the accuracy of statistics often applies to any written or spoken words: Lies, damn lies and .... objective evidence! If you don't believe the information you're being shown, its value as evidence may be limited.

Perhaps the only real facts of the matter are that if an assessor wants to see only your good points, he'll overlook the dubious evidence; if, for whatever reason, he wants to find as much wrong with you as possible, he'll fill his non-compliance sheets. These are obviously extreme cases, and hopeful assessors will not be swayed too much by their own attitude towards the individuals they are assessing, but the feelings and impressions of all concerned in an assessment often provide the circumstantial evidence that swings the case one way or another when deciding if the activity under review is acceptable.

A good assessor should be aware of these issues and make use of his hunches and intuitive processes. Appendix D1 gives a checklist which assessors may find useful. Some may argue that the assessor in asking such questions is making a personal judgement on another individual. I would respond that, if an assessor is trying to find weaknesses in an organisation, then he has as much right to assess each individual within an organisation as he has to examine the policy, procedures and service.

GETTING A FEEL FOR A PLACE

Often, when doing an assessment all the objective evidence will seem to be in good order and yet you get the distinct impression that things are not what they seem. Maybe all the documents where brought up to date the day before you arrived, maybe everyone has been briefed on what they aught to say - this is very difficult to prove but can be sensed.

A good assessor will be aware when things are a bit too good, or when the smiles of the assessee are a bit too wide. The advice then is to try a different tack, try to talk to different people, but don't waste too much time on them. Better to spend time assessing departments that value an independent review. Anybody who tries to fool an assessor is only really fooling themselves.

CHAPTER 29
USING OTHER INPUTS

QUESTIONNAIRES & SPC DATA

The checklist, even with a well recorded audit trail, is not the be all and end all of an assessment. The beauty of an internal assessment is that it can be used to pull together evidence from a diverse set of inputs. Whilst traditional quality assessments may have concentrated on batch cards and controlled documents, even ISO 9000 assessors are now likely to want to examine your control charts and, if you have declared a Statistical Process Control (SPC) programme, to see your calculations of process capability indices (Cpk figures, etc).

FAULT TREE ANALYSIS (FTA)

In the Safety and Reliability fields there are various established methods of analysing systems to look for hazards and risks. Increasingly these techniques are being applied not just to electronic and mechanical systems, but also to 'human systems' i.e. the people related support activities associated with a given activity. One such technique is Fault Tree Analysis. FTA is described in details in many publications, including the international standard IEC 1025 (ref 16). It is best illustrated here with an example:

Suppose we are in a parked vehicle and trying to assess the risk of hitting another vehicle as we pull out into the road.

* To have an accident would require us to pull out AND there to be another vehicle in that bit of road

* We might pull out IF we didn't see the other car OR if we considered it wouldn't hit us

* The other car might be in the same bit of road IF they hadn't seen us signal OR we hadn't signalled

Thus, an accident is most likely to occur IF we pulled out at the wrong time AND didn't signal.

At first sight, this might seem like two independent errors (a misjudgement in pulling out and forgetting to signal), but they may well be due to what is known as 'Common Causes' - like we were over-tired or drunk!

(Note: The IEC and other references usually draw FTAs as a logic flow diagram using standard logic symbols, since explanation of the scope of such symbols is outside the scope of this document, a textual presentation is adopted)

Since self assessments are also looking for risks of a failure (of product, safety procedures, management methods, etc) the thinking behind FTAs could be applied by assessors as an audit trail. e.g "IF you were knocked down my a bus, how would somebody else know what to do?"

LOOK AND LISTEN

Supportive evidence to an assessment could be obtained, for example, from any other the following:

* Design Reviews Minutes - Safety, reliability and efficient manufacturing methods have to be designed into a product from the start; thus, evidence of a professional approach to identifying and eliminating hazards will be found in design records.

* Progress Minutes - it is not just formally issued documents which need to be reviewed. Any form of written evidence is admissible: in product liability cases, for example, it is not unknown for scribbled notes to be used to indicate ignored warnings or lack of attention to issues of concern. Notes of meetings with customers (or suppliers) are particularly valuable in assessing how well external communications are handled.

* Discussion with the cleaner, for example - It is not just the key managers and production operators or service staff that determine the effectiveness of an organisation. Assessors should be able, or perhaps encouraged, to talk to anyone who may have a valid input to the assessment. An often quoted example is the telephonists - try ringing your site from outside and see how soon it is answered and how helpful the response. Besides playing a key part in the operation of clean-rooms and hygienic areas, cleaning staff can have a more general influence on staff tidiness; bins that are never emptied encourage hoarding, receptacles for recycling promote interest in re-use of materials.

Our work environments are complex with many inter-related features. Assessors need to have eyes and ears open to anything that seems 'not quite right'.

CHAPTER 30
PULLING IT ALL TOGETHER

The sequence of events as an assessment draws to a close is likely to be:

* Rounding off questions are asked and final notes taken by the assessor.

* The assessor is given an opportunity (and free room) to piece together the evidence and decide on the conclusions. This will involve studying the notes made during the assessment i.e. checklists and any other written evidence that has been collected.

* Against any item of evidence which fails to indicated cause for concern, he records an observation. e.g. Telephonist meant (ref document XYZ) to record all incoming calls, but no record seen.

It is debatable as to how much further the assessor should go on his own. It is conventional for ISO 9000 assessors to report the observation and leave the decision on what action (if any) to be taken to the company. Since these are third party assessors, this is probably reasonable. Informally however, and perhaps in discussing the issue during the audit itself, most auditors will give some indication as to what action they would deem appropriate to correct the observed deficiency.

In self assessments, where assessors (nominally!) work for the same company as the assessed, it is perhaps more in order for remedial actions to at least be suggested by the assessor. After all, they have seen something that they think needs fixing and presumably have some idea on what they would like to see in its place. I emphasise 'suggested' remedial action. In nearly all assessments, it is the assessee who decides what action is to be taken.

Assessor and assessee(s) plus any relevant managers discuss observations and proposed actions. Once an agreement is reached it should be recorded and signed by all relevant people - see Chapter 16.

Examples of forms used to record audit observations and actions are given in Mike Fox's 'A Quality Auditing Manual' (ref 17)

CHAPTER 31
GETTING ACTIONS COMPLETED

One of the most difficult aspects of auditing is chasing up the actions. For all actions resulting from an assessment to be fully completed and signed off ahead of the originally agreed date can be rare. There are usually very good reasons for this, at least in the eyes of those tasked with completing the actions, for example "this proposal had to be in", or "we had a panic". Such comments pose the question as to how much of a priority completing actions from assessments should be. All too often priority decisions are made on the basis of which uncompleted task is going to result in most hassle. Attitudes to the completion of audit actions gives a real insight into the prevailing culture of a business!

Who should be responsible for chasing that corrective actions are completed? No one. Once a given staff member has accepted an action, it becomes his or her responsibility. Their superior, who should either have agreed the action or at least been copied with its details, also has a responsibility to ensure that the actionee is given whatever resources are necessary to complete the action.

The reality is sometimes rather different. Many organisations have individuals or even whole departments who work on a reactionary basis - they do the work for whoever is pushing them most. There are some who seem to work best under this sort of pressure, but as far as the overall business is concerned, it cannot be considered efficient - anybody who's time is spend going round chasing other people is doing a job that would not be necessary.

Assessment systems must unfortunately acknowledge the extreme and conflicting pressure under which most people work and try to make the system as painless as possible, e.g. to keep everybody informed the self assessment programme manager can ensure that a regular list of outstanding actions circulated to actionees - they may just need a reminder.

What about ensuring that the actions are effective? With on-going audits, using a standard checklist, this can be automatic. Each time a given area is assessed, the same questions will be asked and any previous action not effective will be picked up.

Personally, I do not accept an audit action unless I am confident that the scope and timescales of the action are realistic. Audit actions which serve only to keep an assessor happy, or cannot possibly be completed should be avoided - they are the sort of wasteful activity that self assessment is designed to identify and eliminate! If an action helps the business, there is little excuse for not doing it.

CHAPTER 32
CONCLUSIONS

Self assessments are about collecting evidence, looking and listening for signs of inefficiency and waste, searching out those things that are not in keeping with the requirements of regulations, the objectives of the business or the ethos of a globally aware business.

The evidence collected should include, but not be restricted to, hard objective facts and measurable results. Words and facts are like statistics - you can prove anything you like with them; A thorough self assessment looks beneath the superficial indications and examines the culture and beliefs on which the company is based.

The quality of product and services provided by a business, its efficiency, and its approach to Health, Safety and the environment are dependent not just on its management practices and written procedures but on the fundamental attitudes of the individuals within it. Self Assessment ultimately stops with each and every one of us: are we being reasonable? Am I doing the best I can?

Integrated management recognises that systems for controlling quality, safety and pollution can readily be combined into an integrated approach to business management. Self assessment provides a tool to examine the weaknesses in current approaches and thus guides a move towards an integrated system. The self assessment asks searching questions. It may not be what is said in response to an assessor, but the way that it's said, that triggers an improvement activity. Or, as the great Chinese philosophy says (ref 18):

Is there really any difference between a yes and a no said insincerely?

APPENDIX A
GLOSSARY OF TERMS AND ABBREVIATIONS

BATNEEC   Best Available Technology Not Entailing Excessive Cost
BPEO   Best Practical Environmental Option
BQF   British Quality Foundation
BS   British Standard
BSI   British Standards Institution
CECC   CENELEC Electronic Components Committee
CENELEC   European Committee for Electrotechnical Standardisation
CI   Continuous Improvement
CIMAH   Control of Industrial Major Accident Hazards
CIPFA   Chartered Institute of Public Finance and Accountancy (UK)
COSHH   Control of Substances Hazardous to Health
cpk   Process capability index
EAWR   Electricity at Work Regulations (UK)
EFQM   European Foundation for Quality Management
EMC   Electromagnetic Compatibility
EN   EuroNorm standard
EQA   European Quality Award
FTA   Fault Tree Analysis
HAZOP   Hazard and Operability (study)
HMIP   Her Majesties Inspectors of Pollution (UK)
H&S   Health and Safety
HSE   Health and Safety Executive (UK)
HSWA   Health and Safety at Work etc. Act
ICA   Institute of Chartered Accountants
IEA   Institute of Environmental Assessment (UK)
IEC   International Electrotechnical Commission
IEE   Institute of Electrical Engineers (UK)
IPC   Integrated Pollution Control
IQA   Institute of Quality Assurance (UK)
ISO   International Organization for Standardization
JIT   Just-In-Time
NAO   National Audit Office (UK)
QA   Quality Assurance
RCD   Residual Current Detectors
ROSPA   Royal Society for the Prevention of Accidents
SRS   Safety and Reliability Society (UK)
SPC   Statistical Process Control
TQM   Total Quality Management
UL   Underwriters Labs (A US based Assessor)
VDU   Visual Display Unit

APPENDIX B
CONTACT POINTS

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Belgium

CIPFA
3 Robert Street
London   Tel 0171 895 8823
WC2N 6BH   Fax 0171 895 8825

ICA
Chartered Accountants' Hall
P.O.Box 433
Moorgate Place
London
EC2P 2BJ

IEA
Holbeck Manor
Horncastle   Tel 01507 533444
Lincolnshire
LN9 6PU

IQA
P.O.Box 712
61 Southwark Street   Tel 0171 401 7227
London   Fax 0171 401 2725
SE1 1SB

The British Library
Science Reference and Information Service (SRIS)
25 Southampton Buildings   Tel 0171 323 7472
London
WC2A 1AW

Safety and Reliability Society
Clayton House
59 Piccadilly
Manchester
M1 2AQ

HSE (Public Entry Point)
Broad Lane
Sheffield   Tel 0114 289 2345
S3 7HQ

APPENDIX C
REFERENCES

Publisher contact details are given in Appendix B. ISO Standards often have national equivalents which may be obtained from your national standards body. In the UK this is BSI.

1. The BS EN ISO 9000 series, including:
    - ISO 9000 Part 1: Guidelines for selection and use (1994)
    - ISO 9000 Part 3: Guidelines for the application of ISO 9001 to the development, supply and maintenance of software (1993)
    - ISO 9000 Part 4: Application for dependability management (1993)
    - ISO 9001 Quality systems - Model for quality assurance in design, development, production, installation and servicing (1994)
    - ISO 9002 Quality systems - Model for quality assurance in production and installation (1994)
    - ISO 9003 Quality systems - Model for quality assurance in final inspection and test (1994)
    - ISO 9004 Quality management and quality system elements
        Part 1: Guidelines (1994)

2. ISO 8402:1986, Quality - Vocabulary

3. BS 7750 - Environmental Management System

4. Councillors' Guide to Local Government Finance, CIPFA, 1991

5. Chambers English Dictionary, 1990

6. ICA members Handbook 1994 Volume II: Accounting, auditing and reporting.

7. Woolsten H (editor), Environmental Auditing; The British Library, 1993

8. Cox R F (editor), Assessment and Control of Risks to the Environment, and to People; SRS, 1992

9. Protection against electric shock; HSE Guidance note GS27 (1992)

10. Forthcoming Report, European Model for Total Quality Management; Technical Communications (Publishing) Limited, 1994

11. Beasley K, Total Quality Management in the Electronics Industry; Technical Communications (Publishing) Limited, 1992

12. BS EN 30011:1993 ISO 10011:1991 (previously BS 7229) Guidelines for auditing quality systems
- Part 1. Auditing
- Part 2. Qualification criteria for quality system auditors

- Part 3. Management of audit programmes

13.   CECC 00 114 (Rule of Procedure 14): Quality Assessment Procedures: Part V
      - Process Approval of Specialist Contractors within the Electronic Components
      Industry
                              Part VI   Technology Approval

14.   CECC 00 804:1994 - Interpretation of EN ISO 9000 reliability aspects to
      reliability components.

15.   CECC 200 008 - Process Assessment Schedule for Gallium Arsenide
      Monolithic Integrated Circuit (MMIC) Process

16.   IEC 1025:1990 - Guide to Fault Tree Analysis

17.   Fox M J, A Quality Auditing Manual; Technical Communications (Publishing)
      Limited, 1992

18.   Tao Te Ching, A new translation by Man-Ho Kwok, Martin Palmer & Jay
      Ramsay; Element Books Ltd, 1993

APPENDIX D1
THE SUB-CONSCIOUS CHECKLIST

Assessee's response to questions

1. Do I believe what I'm being told?   YES/NO

2. Is he trying to pull the wool over my eyes or side-track me? YES/NO

3. Are they being deliberately obstructive?   YES/NO

What might they trying to hide?   --

Picking up the 'feel' of a place

1. Is there a friendly, helpful, atmosphere?   YES/NO

2. Are staff generally happy and content in their jobs? YES/NO

Observations:
                    ----

3. Does the business have a consistent working environment or other signs of a
corporate culture?   YES/NO
e.g. Do notices suggest a supportive environment?,
is everything painted a dreary dark brown, etc

Observations:
                    ----

4. Do the above suggests a positive, balanced approach
to work?   YES/NO

Tricky situations

Is this a personal problem as opposed to a procedural
one? e.g. Is there a personality clash?   YES/NO

Tricky assessee

Is he just having an off day? (e.g. is this a one-off
bad mood due to a personal problem, for example, or
is he always like it)   YES/NO

APPENDIX D2
COMMUNICATIONS CHECKLIST

Staff

1. How are the following communicated to staff:

Business objectives

Quality Policy

Environmental Policy

Policy on Health & Safety

----

2. Does each member of staff know the company policy
in each of these areas?   YES/NO

Individuals questioned:

----

3. Do employees understand how the above policies
relate to their particular job?   YES/NO

Give an example:

----

4. Do employees know who to discuss the following with:

Electrical Safety Hazard

Risk of pollution

Wasteful process

Problems with handling chemicals

----

5. Are staff kept informed of key business achievements? YES/NO

How? (e.g. via department meetings, notice boards, etc)

----

6. When new policies and procedures are introduced which affect the staff, are the staff:

      Actively involved in the discussion   YES/NO

      Given chance to comment before the changes are   YES/NO
      implemented

      Fully informed of changes   YES/NO

How? (e.g.via line management, staff/management liaison meeting, via trade unions, etc)

Customers

1. How are customers and other external bodies informed of the following:

      Business objectives

      Quality Policy

      Environmental Policy

      Policy on Health & Safety
                          ----

2. Are there clear contact points for the following, and where are they specified:

	Contact Name	*Where defined*
General quality issues	------------------------------	
Product quality issues	------------------------------	
General product information	------------------------------	
General safety issues	------------------------------	
Product safety issues	------------------------------	
Price and delivery information	------------------------------	
Environmental issues	------------------------------	

3. Is this information clear and sufficiently comprehensive?   YES/NO

4. Is it possible for customers to receive data from

different sources which is contradictory or confusing?
(e.g are product data sheet and safety handling   YES/NO
instruction consistent?)

5. Is the customer informed of changes to relevant
products or processes?   YES/NO

How?

----

6. How are customer returns handled?

----

7. Are customer returns and comments treated as
useful feedback and part of Continuous Improvement?   YES/NO

How?