

PURPOSE :- The purpose of this Manual is to provide a guide to the Quality, Health & Safety and Environmental policies of GAI-Tronics, a division of Hubbell Ltd (GH) and to give an overview description of the management system designed to implement them.

CONTENTS :-	Section number	Description
	1	Policy and its implementation
	2	Human resources
	3	Customer needs
	4	Design control
	5	Information control
	6	Material control
	7	Facilities control
	8	Production process control
	9	Aftercare services control
	10	Performance monitoring and improvement

REVISION STATUS :- Issue 13 of this manual has been released to incorporate the following changes :-

1. An addition has been made to 1.2.3 (f) to make it clear that employees are expected to be in a fit state to do their job safely and not under the influence of alcohol or drugs that could adversely affect their ability to do so. This change came from the audit by Achillies to register the Company as a supplier to the Utilities Industry.
2. R. Rumsby has been appointed Engineering Manager and the Kaizen Promotion role is vacant (see 2.1).
3. Personal Development Reviews are now held as needed (see 2.5 and 10.5(k) – reference removed).
4. The Health, Safety & Environmental Committee now has a more advisory role to help Managers to fulfil the risk assessment and safety control responsibilities which have been devolved to them (see 2.2 & 2.8).
5. Web based software is now used to conduct and analyse customer surveys (see 3.1).
6. Q-pulse software has been introduced to establish & maintain a database of pertinent records & documents, thereby reducing the need for hard copy records and multiple different storage media. It is currently being used for some corrective & preventive actions, supplier records and document management (see 3.5, 6.1, 9 & 9.3).
7. The DES061 alternative format for design control has been withdrawn in favour of a simplified version of DES 060 that can be used for all kinds of projects (see 4.2 to 4.4).
8. Commercial are no longer involved in purchasing from other Hubbell units, it is done by the buyers (see 6.2).
9. All first aid incidents are now investigated using the incident investigation form ADM911 (see 7.4).

This document has been approved for adequacy and issue, via Q- Pulse, by :-

Job function	Name	Signature	Date
Business Unit Controller (BUC)	Toby Balmer	<i>Toby Balmer</i>	February 2011
Business Unit General Manager (BUGM)	Graham Lines	<i>Graham Lines</i>	February 2011
Director of Manufacturing (DM)	Mark Bradford	<i>Mark Bradford</i>	February 2011
Quality Manager (QM)	Dennis Turner	<i>Dennis Turner</i>	February 2011

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1. POLICY AND ITS IMPLEMENTATION

1.1 Scope of activities and background information

GAI-Tronics - a division of Hubbell Ltd (GH) in Burton upon Trent is part of Hubbell Corporation, based in the USA, which has a multi-billion \$ turnover. The other divisions are Hawke in Manchester & Hubbell Scotland in Glasgow. GH has a long heritage and recognised expertise in the markets it services. The scope of its activities comprises: 'The design, manufacture and servicing of ruggedised communications and control products and systems incorporating telephone, audio, radio and video techniques for use in arduous, hazardous or safety critical environments, and electrical distribution, measurement, control and lighting equipment'. No exclusions are claimed with respect to the requirements of ISO 9001:2008, ISO 14001:2004 or BS OHSAS 18001:2007.

1.2 Policies

1.2.1 Quality Policy

The quality policy of GH is to structure its organisation, manage its processes and recruit, train and develop its personnel in a way that will consistently deliver quality products and services to its customers, on time and to specification and ensure compliance with applicable statutory / regulatory requirements. The management system defines the methods used to deliver on these commitments and is approved to ISO 9001 by LRQA and certified by Baseefa to meet ATEX and IECEx requirements for products used in hazardous areas. Through teamwork and continual improvement GH is pursuing the long term strategic goals of :-

- (a) Fulfilling customer expectations and enhancing their satisfaction with our performance as a supplier.
- (b) Providing a stimulating and rewarding environment for its employees.
- (c) Producing operating profits in line with Corporate expectations.
- (d) Increasing its market profile and reputation for excellence as a provider of quality products and services.
- (e) Integrating and simplifying systems to meet all applicable requirements more efficiently and effectively.
- (f) Applying best practise techniques to refine and enhance operational processes.

1.2.2 Environmental policy

GH is committed to prevention of pollution, to compliance with applicable legislation, to conformance with ISO 14001 and to the continuous improvement of environmental management systems, which are an integrated part of the management system as a whole and designed to be appropriate to the nature, scale and environmental impact of the Company's activities and the products and services it provides. The management system is certified to ISO14001 by LRQA. GH is a member of the Staffordshire Business & Environmental Network (SBEN) and the B2B WEEE Compliance scheme.

GH assesses and monitors the environmental aspects of its activities to identify areas where there is the most significant impact as a basis for the selection of areas for improvement. Policy and the commonsense rules derived from this are made known to employees, contractors working on behalf of the Company, visitors and customers, regulatory authorities and the public on request. Information on significant environmental aspects will be provided in response to specific requests. Resources and responsibilities are allocated as needed to fulfil policy and achieve objectives (see 1.2.4). The following areas will be considered when developing / maintaining the system and setting objectives :-

- (a) The potential for direct (via site activities) and indirect (via product supplied) pollution of the environment.
- (b) The minimisation and safe/appropriate segregation, storage and recycling or disposal of waste.
- (c) The use of energy.
- (d) The use of materials with a view to the recycling of products and materials.
- (e) Present & future legislative, market, corporate and public interest factors that may affect policy or practice.
- (f) The use of best practice, to reduce adverse environmental impact, where this is economically viable.

1.2.3 Health and Safety (H & S) policy

GH is committed to compliance with its statutory and Corporate responsibilities for health and safety and to the prevention of injury or damage to the health of employees, contractors, visitors and customers caused by their participation in its activities or the use of its products. GH is committed to continuously trying to improve its H & S performance and management system, which is an integrated part of the management system as a whole, takes into account legal and other requirements that are applicable and is certified to OHSAS 18001.

- (a) Risk assessments are carried out for all areas and whenever significant changes are made to the working environment or the processes taking place in it. Action is taken, where necessary, to eliminate or manage the risks detected to maintain and improve the safety of the work place and work practices.
- (b) Management ensure that all processes, products and systems of work are designed to take account of H & S, with appropriate equipment and facilities, adequate guidance instructions and responsible supervision.
- (c) Each employee is given the information, instruction and / or training necessary to enable the safe performance of work activities. A basic set of rules is communicated to them and to contractors and visitors.
- (d) Arrangements are maintained to enable employees to raise issues of health and safety, via their line managers, the Health, Safety & Environmental Committee (HSEC) or directly to senior management.
- (e) Competent people are assigned to assist in meeting statutory duties including employees with appropriate skills, local specialists and those that are employed by the Corporation to advise all Hubbell sites.
- (f) Each individual has a legal obligation to take reasonable care for his or her health and safety and for the safety of other people who may be affected by his or her acts or omissions. They must be in a fit state to carry out their job safely and not be under the influence of alcohol or drugs that could adversely affect this.
- (g) Details of the organisation and arrangements for health & safety are set out in sections 2, 7 and 10.

1.2.4 Setting improvement objectives and communicating them to all personnel

Business, quality, environmental and H & S improvement objectives and targets are set annually. Policy and objectives are communicated throughout the organisation via notice boards, training and personal development reviews. Individual and team targets are established so that everyone understands their part to play in achieving the collective goals of the Company. External communication is developed and maintained according to need, to ensure that interested parties are appropriately informed about the policy, aims and performance of GH.

1.2.5 Progress and policy reviews

Performance is continually monitored via appropriate metrics, customer feedback and internal audits, which provide the basis for the evaluation of progress in relation to the objectives in the quarterly management reviews. Corrective and/or preventive action is agreed and applied as required to address any significant deviation from the objectives and targets set. These reviews include consideration of whether the management system continues to provide suitable means for the implementation of policy and the achievement of the objectives. Any changes required are included in the management system procedures and work instructions. The policies themselves are also reviewed by the management team to ensure that they continue to be appropriate in the light of changes in customer and regulatory requirements, and Corporate priorities.

1.3 The Management System

The management system consists of a series of 10 procedures including this manual that describe the key business processes, which are the result of the consideration of the needs of the organisation as a whole and the planning / orchestration of its activities to meet these needs. It provides the means of fulfilling the policies detailed in section 1.2. The correspondence of these procedures with the requirements of ISO9001:2008, ISO14001:2004 and BS OHSAS 18001:2007 is explained in section 1.4. The inter-relationship of the procedures is described in 1.5. Procedure numbering (Q1 to Q10) is consistent with the main section numbering of this manual, which provides a guide to the criteria content and methods used in these procedures. Detailed work instructions, forms and specifications have been generated, where necessary, to ensure that specific activities in need of control have appropriate documented guidance. None of the core processes are outsourced, but control of activities that are is covered in Q6 & Q7. The integrity of the management system as a whole is maintained by the Quality Manager (QM), who reviews any changes planned before implementation. Health, Safety, Environmental and Business risks are taken into account when maintaining the management system.

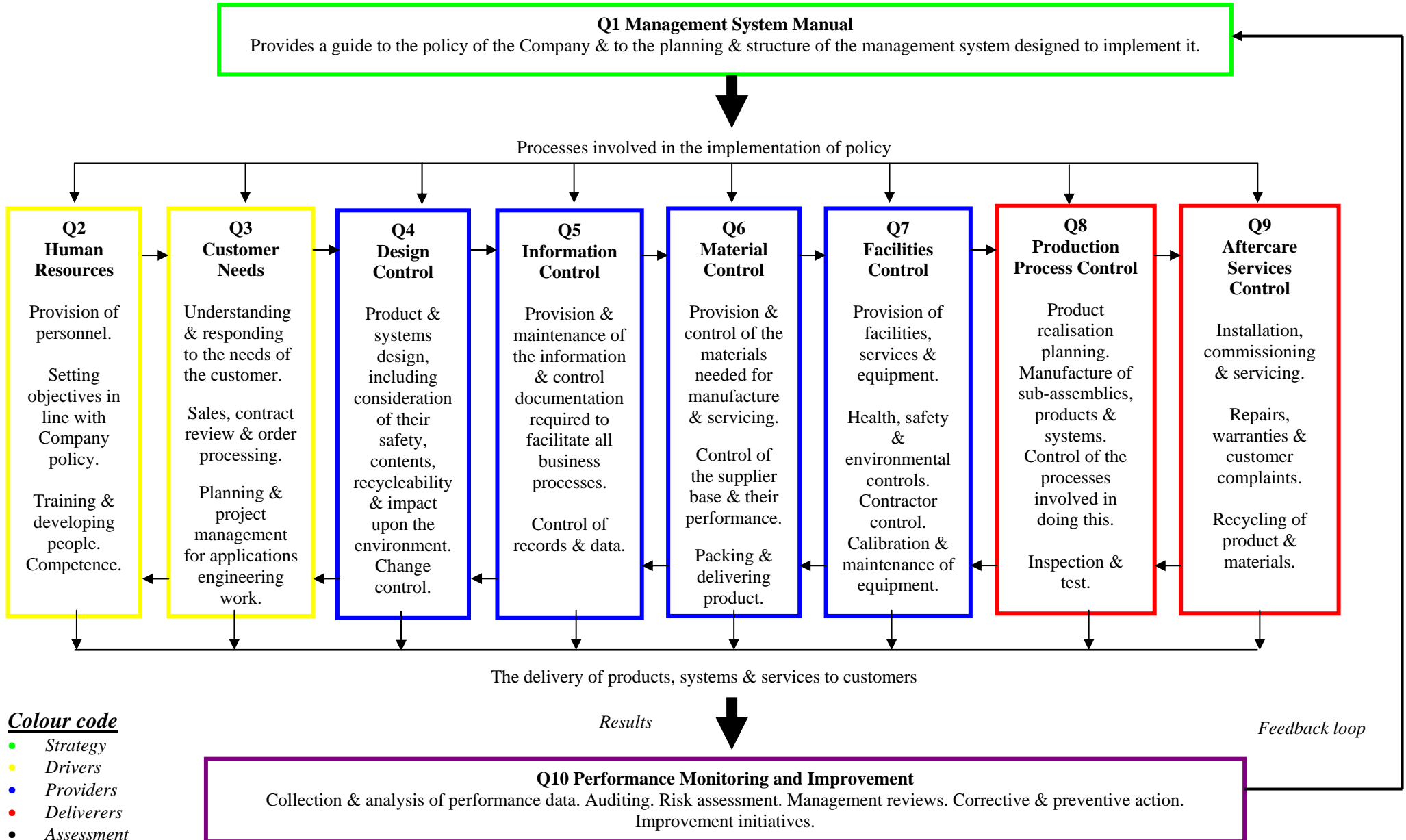
1.4 Cross reference of ISO 9001, 14001 & BS OHSAS 18001 standards with the management system

ISO9001 Section	ISO9001:2000 section title	Q1 section references	Other procedure references
4	Quality management system		
4.1	General requirements	1.3-1.5, 2, 6, 7 & 10	Q2 to Q10
4.2	Documentation requirements	1 & 5	Q5
5	Management responsibility		
5.1	Management commitment	1.2, 2 & 10	Q2 and Q10
5.2	Customer focus	3	Q3
5.3	Quality policy	1.2.1, 1.2.4 & 1.2.5	Q2 and Q10
5.4	Planning	1.2.4, 1.3, 1.5 & 2.4	Q3, Q4 and Q8
5.5	Responsibility, authority & communication	2.1-2.4	Q2
5.6	Management review	1.2.5, 10.5	Q10
6	Resource management		
6.1	Provision of resources	2.3 & 7.1	Q2 and Q7
6.2	Human resources	2	Q2
6.3	Infrastructure	7	Q7
6.4	Work environment	7 & 8	Q7
7	Product realisation		
7.1	Planning of product realisation	3.4, 4, 5 & 8	Q3, Q4, Q5 and Q8
7.2	Customer related processes	3, 4 & 9	Q3, Q4 and Q9
7.3	Design and development	4	Q4
7.4	Purchasing	6	Q6
7.5	Production and service provision	6, 7, 8, 9	Q6, Q7, Q8 and Q9
7.6	Control of monitoring & measuring equipment	7.4	Q7
8	Measurement, analysis & improvement		
8.1	General	1.2.5, 4, 8 & 10	Q4, Q8 and Q10
8.2	Monitoring and measurement	8 & 10	Q8 and Q10
8.3	Control of nonconforming product	4, 6, 8, 9 & 10	Q4, Q6, Q8, Q9 and Q10
8.4	Analysis of data	10	Q10
8.5	Improvement	1, 4, 6, 8, 9, 10	Q4, Q6, Q8, Q9 and Q10

ISO14001 section	ISO 14001:2004 section title	Q1 section references	Other procedure references
4.1	General requirements	1.1 & 1.3 to 1.5	
4.2	Environmental Policy	1.2	
4.3	Planning	1 & 2	
4.3.1	Environmental aspects	1.2.2, 2 & 4 to 10	Q2 & Q4 to 10, especially Q7
4.3.2	Legal & other requirements	1.2.2, 5 & 7	Q5 & Q7
4.3.3	Objectives, targets and programme(s)	1.2.2, 1.2.4, 1.2.5, 2.4, 7 & 10	Q2, Q4, Q7 & Q10
4.4	Implementation & operation	2 to 10	Q2 to 10
4.4.1	Resources, roles, responsibilities & authority	2.1 to 2.3, 2.8 & 2.9, 7	Q2 & Q7
4.4.2	Competence, training & awareness	2.4 to 2.7 & 7	Q2 & Q7
4.4.3	Communication	1.2.4, 2.1, 2.4, 2.9, 3.5, 7 & 9	Q2, Q3, Q5, Q7 & Q9
4.4.4	Documentation	1.3 to 1.5, 5 & 7	Q5 & Q7
4.4.5	Control of documents	5 & 7	Q5 & Q7
4.4.6	Operational control	1.3 to 1.5, 2 to 10	Q2 to 10
4.4.7	Emergency preparedness & response	7, 9 & 10	Q7, Q9 & Q10
4.5	Checking	6 to 10	Q6 to Q10
4.5.1	Monitoring & measurement	7, 8 & 10	Q7, Q8 & Q10
4.5.2	Evaluation of compliance	2, 7 & 10	Q2, Q7 & Q10
4.5.3	Non-conformity, corrective action & preventive action	7 & 10	Q7 & Q10
4.5.4	Control of records	5	Q5
4.5.5	Internal audit	10	Q10
4.6	Management review	1.2.5 & 10	Q10

BS18001 section	BS OHSAS 18001:2007 section title	Q1 section references	Other procedure references
4.1	General requirements	1	
4.2	Occupational Health & Safety Policy	1.2.3	
4.3	Planning	7, 10	
4.3.1	Hazard identification, risk assessment & determining controls	1.2.3, 7, 10	Q7, Q10. Also see work instruction HRWI 2.
4.3.2	Legal & other requirements	1.2.3, 2.5, 2.8, 5 & 7	Q2, Q5 & Q7
4.3.3	Objectives and programme(s)	1.2.3, 1.2.4, 1.2.5, 2, 4, 7 & 10	Q2, Q4, Q7 & Q10
4.4	Implementation & operation	2 to 10	Q2 to Q10
4.4.1	Resources, roles, responsibility, accountability & authority	2, 7	Q2 & Q7
4.4.2	Competence, training & awareness	2.5 to 2.7 & 7	Q2 & Q7. Also MWI700.
4.4.3	Communication, participation & consultation	1.2.3, 1.2.4, 2, 3, 7 & 9	Q2, Q3, Q7 & Q9, MWI700
4.4.3.1	Communication	1.2.3, 1.2.4, 2, 3, 7 & 9	Q2, Q3, Q7 & Q9, MWI700
4.4.3.2	Participation and consultation	1.2.3, 2, 7 & 10	Q2, Q7 & Q10
4.4.4	Documentation	1.1, 1.2.3, 1.5, 5 & 7	Q5 & Q7
4.4.5	Control of documents	5	Q5
4.4.6	Operational control	1.3 to 1.5, 2 to 10	Q2 to Q10
4.4.7	Emergency preparedness & response	7	Q7. Also see MWI704.
4.5	Checking	5, 7 & 10	Q5, Q7 & Q10
4.5.1	Performance measurement & monitoring	1.2.5, 7 & 10	Q7 & Q10
4.5.2	Evaluation of compliance	7 & 10	Q7 & Q10
4.5.3	Incident investigation, nonconformity, corrective action and preventive action	7 & 10	Q7 & Q10
4.5.3.1	Incident investigation	7	Q7
4.5.3.2	Nonconformity, corrective and preventive action	10	Q10
4.5.4	Control of records	5	Q5
4.5.5	Internal audit	10	Q10
4.6	Management review	1.2.5 & 10	Q10

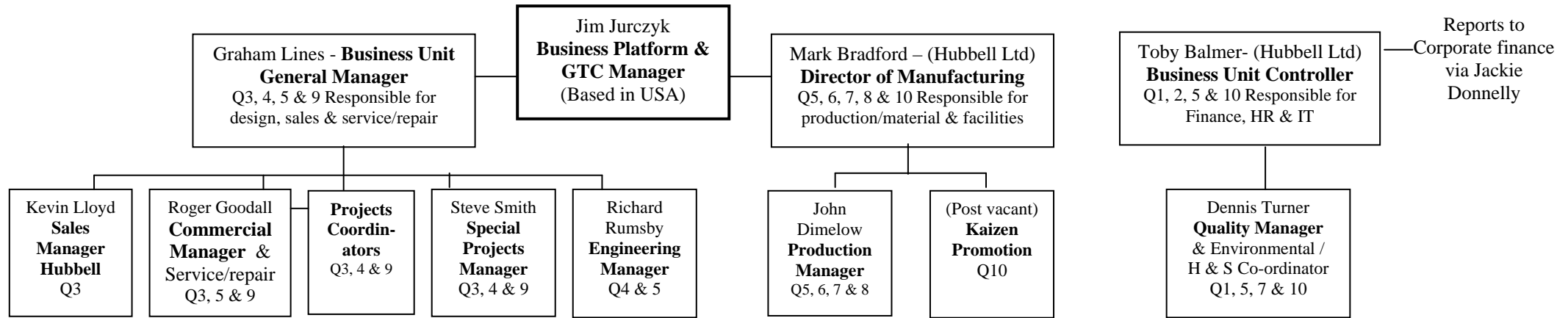
1.5 System overview diagram



2 HUMAN RESOURCES

2.1 Responsibility and authority in relation to quality, the environment and health & safety

Management responsibilities and inter-relationships are defined in the following diagram. Authority for the implementation of the management system is defined as shown by the procedure numbers in the diagram. Off-site management (JJ) has no direct responsibility for the management system.



2.2 Management Representative

The Quality Manager (QM) is the Management Representative, with responsibility and authority to ensure that the processes needed for the management system are established, implemented and maintained. This in no way detracts from the direct responsibility of Management to ‘own’ and implement procedures as defined above. For this reason procedures are jointly authorised for issue by the QM and the Management directly responsible. The QM monitors performance, reports to senior management on the adequacy and effectiveness of the management system, and highlights improvement needs where appropriate. The QM also acts as a point of external liaison on quality, environmental and H & S issues, dealing with suppliers where necessary and receiving, documenting and responding to relevant communications from external interested parties. He analyses and disseminates customer survey results and customer complaint/warranty trends and chairs regular customer complaint meetings. The QM also chairs the Health, Safety and Environmental Committee, which does evaluations of compliance and helps with risk assessments and the promotion of Environmental and Health & Safety performance improvements.

2.3 Provision of resources

Senior Managers (GL, MB & TB) are responsible for determining and allocating the human, technological, financial and infrastructure resources needed for implementation of policy and continual improvement of the management system. Managers are responsible for effective use of resources, for assigning defined roles, tasks, authority and responsibility to people and for providing training to ensure they are competent to achieve what is required of them.

2.4 Setting objectives and reporting on performance

The Management Team ensures that Company strategy and policy is translated into verifiable objectives that are effectively communicated throughout the organisation to focus efforts upon key issues and provide the basis for individual and team targets that are set at Departmental level. The BUC ensures that suitable information on Company performance in relation to the objectives is prepared and distributed throughout the organisation.

2.5 Establishing awareness and competency

A job specification is used to describe each employee's role. A Skills Matrix has been established to define the skills required for each role and to detail the competence of all employees, so that training needs can be determined by comparison. Personal development reviews (PDR) are conducted as needed to set individual objectives / targets that are commensurate with the Company and Department objectives, to evaluate the performance of employees and the effectiveness of training and to establish their training needs.

All personnel, including temporary employees are introduced to basic guidelines (MWI700) relating to care for the environment, health and safety. Operators are taken through a basic training process before they are issued with an Operator stamp that authorises them to carry out assembly tasks without direct on-going supervision. Thereafter the range of their competence is extended by training and experience to incorporate extra skills required by the business according to need and inclination. Authority to carry out inspection / test is controlled in the same way. Where a particular task requires specific risk awareness, skills, knowledge or expertise, a work instruction or some other controlled document is established as a guide to the fundamental requirements of the task and personnel are provided with training before they are qualified as competent to perform it.

It is the responsibility of Managers and Supervisors to ensure that the personnel working for them are aware of the importance of their activities and how they contribute to the fulfilment of Company policies and objectives. They are also responsible for ensuring that the quality and safety of work carried out under their supervision is assessed to ensure that the appropriate levels of competency have been established and are maintained. This is supplemented by internal auditing, risk assessment, product inspection/test and performance monitoring.

2.6 Recruitment and induction

Personnel are recruited to fulfil defined job functions, for which a job specification has been established and agreed with the Business Unit Controller (BUC). A formal induction process is implemented for each new employee to introduce them to the Company, its general working practices and those that are specific to their job function. As a part of the induction process the competency of the person is evaluated in relation to the job they are being asked to perform and training and / or mentoring arrangements are made to address any shortfall and establish the appropriate levels of awareness and competence. This aspect of the induction process is also applicable to personnel who transfer from one job function to another that requires different skills.

2.7 Training and qualification records

Managers are responsible for ensuring their personnel are capable of doing the work assigned to them by:-

- (a) Establishing the competence required and achieved by their personnel to determine training needs.
- (b) Ensuring that appropriate training is delivered and recorded, taking into account the responsibilities, ability, language skills and literacy of the personnel concerned and the nature and level of risks involved.
- (c) Evaluating the effectiveness of training received by monitoring/assessing work carried out (see 2.5 above).
- (d) Ensuring that appropriate records of education, training, skills and experience are established and maintained to demonstrate the competence of personnel, including temporary employees.

2.8 Health, Safety and Environmental (HSE) responsibilities

Senior Managers (BUGM, BUC & DM) that allocate and control resources are accountable overall for the effective implementation of the HSE policy and compliance with legal requirements in the areas of the Company that they control. They have delegated responsibility for maintaining the management system, monitoring HSE performance overall and chairing the HSE Committee to the QM. The HSE Committee helps Managers to assess the risks associated with the activities they supervise and to establish effective controls and clear instructions on safe practice. Managers are accountable for maintaining effective HSE controls in the areas they are responsible for and for co-ordinating any corrective or preventive action required to address actual or potential risks. They shall ensure that people working in their department and/or under their supervision, including contractors and temporary staff, are aware of HSE risks and control requirements (see MWI700) and deemed to be competent to perform the tasks assigned to them safely. All Company personnel are responsible for complying with established HSE policy and guidance instructions.

3. CUSTOMER NEEDS

3.1 Evaluating customer needs and measuring customer satisfaction

The Business Unit General Manager (BUGM) has the prime responsibility for determining the needs of customers, reporting on this to the Management Team and generating product requirement specifications to guide the design and development of products and services to meet the general needs of the market place. Specific requests for information on quality and HSE systems and issues are responded to by Sales, Marketing and Commercial staff with the assistance of the QM and other management where necessary.

A Customer survey is carried out annually using web based survey software to secure and analysed the results. A consistent survey format is used to enable trends in customer opinion to be monitored. Other information, based on the experience of the Sales, Commercial, Service and Repair teams in dealing with customers and the analysis of customer complaints, warranty returns and long term product reliability monitoring, is also provided to enable the management team to assess customer satisfaction overall. Customer needs and customer satisfaction are discussed in management review meetings on at least an annual basis and adjustments are made to policy or practice as needed to better respond to customer requirements.

3.2 Determination of requirements related to the product

When an enquiry is received the following issues are considered to determine the requirements applicable :-

- (a) Customer needs, including delivery and any post-delivery activities involved;
- (b) Needs not stated by the customer but inherent in the specified or known intended use;
- (c) Laws and regulations that relate to the product and any additional factors that may be applicable.

3.3 Review of requirements related to the product

The requirements related to the product are reviewed prior to the submission of a tender, the acceptance of contracts or orders, the acceptance of changes to contracts or orders, or the release of product advertising or catalogue information for general use. The purpose of this review is to ensure that :-

- (a) Product requirements are defined and published specifications are accurate.
- (b) Contract or order requirements differing from those previously expressed are resolved.
- (c) The Company has the ability to meet the defined requirements.

Where the customer provides no documented statement of requirement initially a confirmation of requirement is secured before an order acknowledgement is sent to confirm acceptance. Where requirements change the documentation that defines these requirements is updated accordingly and the personnel involved in fulfilling these requirements are made aware of the changes.

3.4 Planning product realisation and applications engineering

The processes and procedures described in this Manual are the plans made by the Company to secure product realisation. Where customer needs differ from what is generally provided by the Company an evaluation is carried out prior to the provision of a quotation to ensure that the Company has, or is able to obtain, the resources and capabilities to meet the customer need. When an order is received anything that is unclear is resolved by discussions with the customer and their requirements are documented. Where necessary a contract review meeting is called to ensure that the primary personnel that will be involved in fulfilling customer requirements understand them clearly, and to define responsibilities and develop plans to ensure that the product / service delivered is satisfactory. Where appropriate a Project Coordinator is assigned to orchestrate the response to the requirement, including any applications engineering work involved and keep project records. Any design work involved is referred to Engineering and carried out as described in Q4. Procedures Q5 to Q9 describe the methods used to translate design specifications into deliverable products and services.

3.5 Customer communication

Sales, Commercial and Project coordinators are responsible for communicating effectively with customers in relation to enquiries, orders, contracts and product information. Customer complaints are managed via an inter-departmental team that meets regularly to orchestrate corrective and preventive action. The Commercial department provides the interface with the customer and records of complaint handling are kept in a database.

4. DESIGN CONTROL

4.1 Design input objectives

A Product requirement specification or customer specification is used to set project objectives. This includes :-

- (a) Functional and performance requirements.
- (b) Applicable statutory and regulatory requirements.
- (c) Information derived from previous designs, where applicable.
- (d) Any other requirements, such as the target product cost, which are essential for design and development.
- (e) Consideration of the voice of the customer and general market place needs.

These objectives are reviewed for adequacy, completeness and to ensure that the requirements are not ambiguous or conflicting with each other. Subsequent revisions or additions to these requirements that emerge from the process of design or via changes in customer requirement are also reviewed and documented.

4.2 Planning

A standard framework (DES 060) has been established to control the design and development process with set stages and requirements to be met at each stage, including the review, verification and validation activities that are appropriate. The interfaces between the various departments involved in the design and development process and their specific responsibilities in relation to it are also defined by this framework to ensure effective communication. Project plans define the work to be done and when it will be done by and assign responsibility for these tasks to the individuals that constitute the project team. These plans are reviewed / updated as needed.

4.3 Design outputs

The design outputs required are defined by DES 060 in a way that ensures that the input objectives are fulfilled. They are reviewed and approved prior to release via the change control process or the project design reviews that occur at each stage. This review process ensures that the outputs :-

- (a) Meet the input requirements.
- (b) Provide appropriate information to purchase parts/services and to control production and service activities.
- (c) Contain or reference any acceptance criteria applicable.
- (d) Specify the characteristics of the product that are essential for its safe and proper use.
- (e) Include an assessment of the environmental impact of the product and how adverse impact can be limited.

4.4 Design review

At suitable stages, defined by the DES060 framework, systematic reviews of design and development are conducted to evaluate the ability of the design to fulfil the project objectives, to identify any problems and to propose necessary actions. These reviews involve participation by representatives of the functions concerned with the stage(s) under review. Records of these reviews are maintained via the DES060 form and meeting minutes, which carry forward outstanding actions for review at future project meetings.

4.5 Design verification

Verification is performed to ensure that the outputs from the design and development process satisfy the input objectives. Records of verification that define the methods used, document the results and detail any follow up action required are established, maintained and referenced in the project file.

4.6 Design validation

Validation is carried out to ensure that the product derived from the design process is capable of fulfilling the specified or known intended use or application. Field trials are necessary in most cases, because there are aspects of the operational environment that cannot be replicated under laboratory or factory conditions. Where practicable, validation is carried out prior to substantial manufacture and delivery of the product to minimise the potential for failures in the field. Records of validation that define the methods used, document the results and detail any follow up action required are kept in the project file. Post project feedback on product performance in the field will also be secured where possible and added to the project file.

4.7 Change control

A change note is the record of change review that documents the formal release or modification of engineering specifications and other information used to define or control product or component characteristics. Changes are reviewed, verified and validated as appropriate before implementation. The review of design and development changes includes an evaluation of the effects of change on constituent parts and delivered product. Records are maintained of the results of change review. Any follow up actions applicable are orchestrated via defined Production staff and the change control database, which notifies the personnel responsible and records their response. The change request system is also used to manage other requirements for Engineering resources such as requests for technical advice, investigations and the approval of concessions.

Applications engineering deploys established product designs in a system, configuration or variation that satisfies particular customer needs. Most of this work is now carried out in the Commercial area and records of any reviews, verification or validation required are established and stored or referenced in the project file maintained by the Project Coordinator, using DES060 or another suitable format. Change control is used to issue 'as shipped' documentation for systems and to govern any actual changes in product design.

5. INFORMATION CONTROL

5.1 Management system documentation

The management system is defined by this Manual, which includes the policy, system scope and strategic objectives. It describes the procedures that control business processes and how they interact to meet the requirements of customers and regulatory standards (including ISO 9001, ISO14001 & BS OHSAS 18001). These procedures are designed to ensure the effective planning, operation and control of business processes and to provide the evidence needed to demonstrate this. These procedures are the product of teamwork between the Management and the QM who directly controls their issue and maintenance. Task specific work instructions and forms have also been established where appropriate by the Management of the functions responsible. The control and issue of such documentation is the joint responsibility of the department concerned and the QM.

5.2 Control of information

The documented procedure Q5 has been established to define the controls applicable to procedures, instructions and other information pertinent to the operation of the management system and the supply of products and services. This procedure and HRWI 3 cover back-up and recovery methods for information technology systems.

Documents that define controls are approved for adequacy by designated authorities prior to issue. They are reviewed, updated, re-approved and accorded a new revision status as necessary thereafter to maintain the currency of the controls applicable. The reasons for change are defined in each up-issued document or, in the case of technical specifications, in an engineering change note released at the same time. Relevant versions of applicable documentation are made available at the point of use, in legible and readily identifiable form, as hard copy or via a database. Obsolete documentation is identified as such and segregated to prevent unintended use.

Standards, directives, legislative information and customer provided documents (intellectual property) that are used for control, planning, operational or reference purposes are identified and stored in an orderly manner. Where appropriate, their currency and suitability for use is maintained via an appropriate supplier, change control and/or customer liaison. Users are responsible for checking the currency of non-controlled items. This includes information on Quality, Environmental, Health & Safety, CE, ATEX/IECEX, UL, CSA, MOD and other requirements pertinent to the supply of products and the control of site or field service activities. External documents relevant to the environment, such as the site lease and plans are controlled by the BUC.

5.3 Control of records

Records are established and maintained that provide evidence of conformity to all applicable requirements (including ISO9001, ISO14001, BS18001 and regulatory issues) and demonstrate the effective operation of the management system. The Q5 procedure ensures that such records are identified, controlled, sorted and stored in a way that protects their legibility, facilitates their retrieval and identifies the retention time applicable.

6. MATERIAL CONTROL

Procedure Q6 covers all aspects of the process of the supply, checking, handling and use of materials, including those supplied by customers. It also covers the purchasing of services and the packing and delivery of product.

6.1 Control of the purchasing process

The Engineering department is responsible for defining the specification of components, sub-assemblies and products, which provides the basis for purchasing. Contract specific material is specified by Project Engineers in Commercial. Specifications are issued via change control.

The DM is responsible for the approved supplier list. The evaluation and selection of suppliers is made by the buyer/department responsible for the material or service being purchased on the basis of their ability to supply what is required, to specification, on time and at an acceptable price. The advice or assistance of other functions in the evaluation process is secured where necessary. Initial assessment is conducted via a simple questionnaire designed to evaluate the size, capability and quality/environmental/H&S system maturity of the supplier.

Evaluation visits are made, where appropriate, particularly if the items or services to be procured :-

- (a) Could seriously affect the quality or regulatory compliance of the products or services provided by GH.
- (b) The process being outsourced depends for its success on co-operation between GH and the supplier e.g. where the interpretation of specifications provided by GH (for non-proprietary parts) is a critical issue.
- (c) Certification or other safety related requirements necessitate specific controls such as a quality plan.
- (d) Verification of what the supplier provides by GH is impractical or undesirable.

The on-going performance of suppliers is monitored on the basis of quality, delivery and service. Where the performance of a supplier is found to be unsatisfactory appropriate action is agreed and implemented. Priority is given to addressing supplier performance issues most likely to impact upon the ability of GH to meet customer and / or regulatory requirements and assessment/liaison visits may be made by the QM or other staff as required. Records of supplier evaluation, selection and monitoring are established and maintained in a database.

6.2 Purchasing information

Purchase orders describe what is required and include, where appropriate :-

- (a) Reference to specifications that must be complied with, which are copied to the supplier as necessary.
- (b) Any requirement for a first-off inspection sample and report, to prove that the product complies with the technical specification applicable, before approval is given to proceed with further manufacture.
- (c) Any requirement for a certificate of conformity, or confirmation of compliance with the RoHS Directive.
- (d) Any quality, environmental or health & safety management system requirement that is obligatory.
- (e) Any other requirements, relating to the approval of products, procedures, processes or equipment, the qualification of personnel or the control of significant business, quality or HSE risks involved.

The buyer is responsible for ensuring that the purchase order adequately specifies the requirements applicable before it is transmitted to the supplier concerned. Buyers are also responsible for inter-Company purchasing by the placement of purchase orders for factored items stocked by GH or sold directly to customers from other Hubbell units. Production purchase site services such as maintenance.

6.3 Verification of purchased product

On receipt of purchased product a routine check is made against the purchase order requirements to ensure that what has been supplied does basically comply with these requirements. Any evidence in this regard that is required by the purchase order shall also be checked on receipt (see 6.2 b, c and e). Where it is deemed to be appropriate incoming inspection is performed, as defined by Q6 and MWI 406 or by documented contract specific requirements referred to Goods Inwards, in relation to the specifications that apply to the items concerned. Where necessary, suppliers may be visited to check their compliance with requirements applicable, as referenced on the purchase order, by arrangement with the management responsible. As a general principle, however, suppliers are expected to be responsible for any checks necessary to guarantee the compliance of the product with specified requirements.

6.4 Control of non-conforming materials

When it is detected that purchased materials or services do not conform with the specified requirements this is addressed by the buyer and / or goods inwards in one or more of the following ways :-

- (a) The rejection of the material to the supplier (or customer) for rectification or replacement. A corrective action request (CAR) is used when no material is return. A Q-Pulse message or a response form is sent for each reject/CAR that asks the supplier to investigate and report upon the reasons for the failure to meet the specified requirements and any corrective and preventive action taken to address the cause. Rejects/CARs are followed up to secure a response. Rectified or replaced material is subject to re-verification on receipt.
- (b) An application for concession is sent to Engineering and / or the customer to secure their permission to use the material, as it is, or after specified modification, for defined purposes.
- (c) Rectification by repair of the items concerned to ensure their conformance. (Most common where the fault is due to the GH specification or an ordering error).
- (d) Scrapping the material, or using it for purposes that will have no impact upon the quality of products or services that are supplied to customers.

Records are established and maintained to demonstrate conformity with these requirements and for the purposes of reviewing and addressing supplier performance issues.

6.5 Identification, monitoring and traceability of materials (to the extent required)

Repetitively purchased parts are assigned a part number by which their procurement, storage and use can be monitored using the materials requirements planning system. Labelling by part number is used when storing materials and the part number or a bill of materials reference number is used to label issued parts. Where appropriate incoming inspection and / or supplier records are established and maintained to demonstrate conformity with specified requirements and allow material to be linked to the supplier. Booking in and inspection stamps are applied to goods received notes (GRNs), as applicable, before material is released for use, and GRNs can be used, as described in Q6, to facilitate batch traceability in special cases where this may be a contractual requirement (e.g. for materials destined for Ministry of Defence end use).

6.6 Material requirements planning (MRP)

Material requirements are determined by customer needs and minimum stock levels are established in some cases to cope with delivery requirements shorter than the lead times quoted by suppliers. The MRP system on the computer is used by Production Planning and Material Control to optimise the supply of material, plan production to meet customer needs, minimise inventory holding, and maintain a good stock turn performance.

6.7 Material storage, handling and preservation

Controls have been established to ensure that materials, sub-assemblies and products are identified, packaged, handled, stored and protected in a manner that will preserve their conformity with the specified requirements. In cases such as chemicals and batteries, where there is a significant risk of deterioration over time and for fragile items such as static sensitive devices and castings with flame retardant paths, specific controls have been established to preserve quality. HSE considerations related to material handling are dealt with in Q7.

6.8 Control of customer property

Any materials supplied by customers are handled with the same care and in the same way as materials provided by a supplier, as outlined above, unless particular arrangements have been agreed with the customer. It is segregated and identified as customer property where it is appropriate to do so. Any customer property that is lost, damaged or found to be unsuitable for use is recorded and reported to the customer (see 6.4). If this applies to intellectual property then the Project Engineer is responsible (see 3.4 and 5.2). Product stock held for customers is clearly labelled and bonded. A record is maintained of the quantity held and any shipments made.

6.9 Control of purchased services that could affect product quality, H & S or the environment

Suppliers providing such services are assessed, monitored and controlled in the same way as those who provide materials (see 6.1). Specific considerations that apply are specified within the procedures that cover these processes, e.g. see Q7 for controls upon calibration and waste disposal suppliers, and for controls applicable to contractors working on Company premises or under Company control.

7. FACILITIES CONTROL

Procedure Q7 covers all aspects of the provision, maintenance and appropriate use of facilities including waste disposal and the health, safety and environmental (HSE) controls that are required for the responsible and effective functioning of the Company. The HSE Committee ensures the representation, consultation and participation of the workforce in risk assessment and the establishment and maintenance of HSE controls, and it reviews all accidents and incidents to ensure that the causes were understood and appropriate action was taken.

7.1 Control of the infrastructure and working environment

In Management Reviews and the annual strategic planning process associated with setting objectives, consideration is given to the present and future infrastructure needs of the business including :-

- (a) Compliance with legal and other HSE requirements that reflect the views of interested parties, as summarised in the Register of Applicable Requirements (ROAR) that is maintained in currency by the QM, and which is subject to evaluation in practice by surveillance audit by the HSE Committee (HSEC).
- (b) Environmental aspects involved in the operation of the business (summarised in the Register of Environmental Aspects Defined – READ) and how to control and reduce their impact upon the environment.
- (c) The identification, control and reduction of HSE risks, and the promotion of staff awareness of this.
- (d) Efficiency of operation, to minimise the cost, lead times and energy usage associated with business processes and thus improve the timeliness and effectiveness of the response to customer needs.
- (e) The maintenance of a suitable working environment and the improvement of financial, operational and business performance by the use of appropriate facilities, technologies, processes and equipment.
- (f) The safe segregation, storage and recycling or disposal of waste to minimise environmental impact.

Specific improvement programmes are established as needed, with appropriate means, to meet defined objectives. Responsibility for their completion and appropriate metrics to measure progress are determined by management and communicated to all concerned. Progress in achieving objectives is monitored (see Q10). If a need for changes in facilities, services or the work environment arise e.g. to fulfil a proposed contract (see Q3), then consideration is given to the practicality of this before a commitment is made. When such changes are introduced specific personnel are tasked with assessing the risks, evaluating the needs, securing anything required and establishing any necessary controls. And if performance monitoring reveals a deficiency due to these factors, then corrective and / or preventive action is taken to bring whatever is involved up to the standard required. This may be achieved by the provision of equipment, services etc. that are an intrinsic part of the business infrastructure or by seeking suppliers capable of providing the missing ingredients on a sub-contract basis, under the supervision and control of GH (see Q6).

7.2 Risk management

Processes/activities that involve risks are managed using the following hierarchy of control :-

- (a) To eliminate the need for the process/activity concerned where possible (e.g. by sub-contracting it).
- (b) To substitute less risky methods where practicable.
- (c) To use appropriate engineered controls to prevent hazards (e.g. machine guards etc.).
- (d) To use warning signs, work instructions, COSHH sheets (to describe safe usage for chemicals), training, personal protective equipment, etc. to reduce risks.

The work instruction HRWI 2 and the ADM065 format is used to carry out proactive risk assessments of each area/department/activity with the managers concerned to identify and evaluate routine and non routine hazards, originating inside or outside of the workplace, which could affect HSE and to document the action taken to address these concerns (see Q10). Business risks are evaluated by senior management using the same method. A permit to work system is used to control risks that are not covered by generic risk assessments and which may involve the activities of contractors. Risk assessments are used to manage lifting and handling risks as they arise. Risk awareness patrols are used to monitor hazards and train staff. Service staff use risk assessment to identify and minimise the hazards involved in field service work as required e.g. visiting roadside phones. External/Corporate expertise is called upon where appropriate, to advise on HSE issues where the skills needed do not exist in-house. The HSEC meets regularly to help to anticipate, assess and manage risks, including those detected by staff, revealed by incidents or associated with changes in the management system, the organisation or its activities that could involve new hazards, and to evaluate compliance with the ROAR.

7.3 Emergency preparedness and response

Where a significant HSE risk would be involved in the event of an accident or an emergency situation (E.g. a fire in the building), then contingency plans are established to control the response to such an eventuality to mitigate the risks and adverse consequences involved. The needs of the emergency services, neighbours, customers, suppliers and regulatory authorities are considered when establishing these plans. Written instructions are established and personnel potentially affected are trained how to respond. Where it is practical to do so, the effectiveness of such plans is tested by simulation of an emergency. In the event of unsatisfactory results from such a test run or an actual emergency incident, and periodically as required, the contingency plans are reviewed and revised as necessary to take account of lessons learnt.

7.4 Incident investigation

All accidents involving first aid or medical treatment are recorded in the accidents register. All accidents, incidents or near misses relating to health, safety, the environment or quality are reported, investigated and recorded using form ADM911 via Production Engineering. The purpose of investigation is to:-

- (a) Determine the underlying causes of the incident and whether this points to weakness in existing controls.
- (b) Identify any need for corrective action and ensure that the action needed is implemented appropriately.
- (c) Identify opportunities for preventive action and on-going improvement and ensure they are pursued.
- (d) Ensure that feedback on the incident is provided to those involved or potentially affected and to provide records for future reference, to ensure that lessons are learnt and improvements made where applicable.

7.5 Monitoring and measuring performance and the calibration of equipment

All critical aspects of business performance are monitored and measured by appropriate means. This includes the testing of components, sub-assemblies and product, and the monitoring of process characteristics.

Equipment not suitable for such use is labelled '*For indication only*' and not relied upon for such measurements. Equipment that is used for such measurements is :-

- (a) Calibrated and/or verified at specified intervals, or prior to use, against appropriate measurement standards, which are traceable to international or national standards. Where no such standard exists the basis used for calibration or verification is recorded. If it is dependent for its functioning upon software then the ability of this software to fulfil the intended application is verified prior to initial use and whenever it is changed thereafter. Its correct function is normally intrinsic to the calibration process for the equipment concerned.
- (b) Adjusted or re-adjusted as necessary at the time of calibration to bring it into specification and optimise the measurement capability. Where this calls into question the validity of previous measurements made using this equipment an evaluation is made of the potential impact of the measurement error and corrective and / or preventive action is taken as necessary. Equipment that cannot be returned to reliable operation within the specification applicable is not used for critical measurements thereafter.
- (c) Carries a label to indicate its calibration status, whether equipment is calibrated internally or externally.
- (d) Safeguarded against adjustment that would invalidate the measurement results, where it is feasible to do so and personnel are trained not to adjust equipment in this manner.
- (e) Protected from damage and deterioration during handling, maintenance and storage.

Calibration plans are established on an annual basis and updated to show what calibration has been carried out. Records of calibration are maintained to demonstrate compliance with these requirements.

7.6 Maintenance of facilities and installation of new facilities

A plan has been established that lists the maintenance requirements applicable to all equipment and facilities. A tooling register is used to ensure that tooling is kept in good order and risks of breakdown or the production of defective parts are minimised. Where the effective operation of a process depends upon regular in-house, maintenance then a work instruction is established to explain what needs to be done or to refer to instruction manuals where this is detailed. Records are kept to demonstrate that planned maintenance has been performed and to enable any repair of equipment carried out to be traced. Where maintenance requires external expertise or new equipment needs to be procured and installed an appropriate contractor is selected and assessed (see Q6 & Q7). Contractors are informed of HSE rules on site (MWI700) and are required to provide risk assessments and/or method statements where significant risks are involved. Permits to work are used if needed.

8. PRODUCTION PROCESS CONTROL

8.1 Production planning

Sales orders are a result of the contract review process (see Q3) and the main input to the production planning process. On the basis of this information manufacturing orders for products and sub-assemblies are generated via the computerised material requirements planning system, which highlights material needs. Actual material ordering and stocking policy takes into account usage and lead times. Production capacity is taken into account when scheduling the release of manufacturing orders for kitting and assembly, which highlights any shortages that need to be chased. Shortage and late delivery incidents are monitored / followed up to reduce recurrence.

8.2 Control of production processes

Production processes are controlled by the provision of (procedure references are provided in brackets) :-

- (a) Engineering information that defines the material constitution & build characteristics of the product (Q4).
- (b) Visual aids or standard work instructions are used instead of drawings for volume production (Q8).
- (c) Routing instructions that define the production sequence and reference any drawings, test specifications, standard work instructions, visual aids and manufacturing work instructions applicable (Q8).
- (d) Suitable manufacturing equipment and work instructions to describe how to use it effectively (Q7).
- (e) Facilities, instructions & training to control any H & S or environmental risks of the process (Q7).
- (e) Test specifications by Test Engineers, on the basis of product performance defined by Engineering (Q8).
- (f) Measuring equipment suitable for product conformity verification and process monitoring (Q7).
- (g) The training and qualification of personnel to perform the tasks involved (Q2 & Q8).
- (h) Routing records that demonstrate that product has been manufactured and verified as specified (Q8).
- (i) Monitoring/measurement to ensure that process characteristics were maintained within defined limits (Q7).

8.3 Special processes

If the output of a production process cannot be verified by subsequent monitoring or measurement and could result in deficiencies that would only be detected in the field, then the process is controlled by :-

- (a) Defining the criteria & methodology that governs the process in a work instruction (Q7 & Q8).
- (b) Approving the equipment by demonstrating that it is capable of doing what is required (Q7 & Q8).
- (c) Qualifying personnel to operate the procedure and recording this via the Skills Matrix (Q2 & Q8).
- (d) Keeping records relevant to the operation of the process (Q8 & Q5).
- (e) Validating the process by in-house tests to simulate field conditions or by field trials (Q4 & Q8).
- (f) Monitoring field returns and customer complaints to detect any signs of failure due to this process (Q9).
- (g) Taking corrective and / or preventive action to promptly address any problems detected (Q10).

8.4 Monitoring and improving processes

Production process parameters are monitored / measured as needed (according to the actual or potential impact upon product quality of the process) and rejects, defects, late deliveries and field returns are analysed and used to detect any weakness in the process, which is addressed by appropriate corrective and/or preventive action (see Q10). Responsibility for this rests with Production Management.

8.5 Monitoring, measuring and maintaining product conformity

The characteristics of products are monitored and measured at appropriate, planned stages of the production process (as defined by routing instructions) to ensure that they meet the requirements defined by Engineering and Test specifications. Evidence of the completion of these activities is recorded on the batch traveller that contains the routing instructions and accompanies the product through the manufacturing process. Personnel have been assigned stamps, which accord them specific permission to carry out assembly, monitoring and measurement activities on the basis of experience and training. These stamps are used to signify completion of each activity via the batch traveller and a label attached to the product involved. Product release is not sanctioned until all of the activities specified in the routing instructions have been satisfactorily completed.

8.6 Control of non-conforming product

Any non-conforming product that cannot be immediately dealt with is labelled as a reject by the person responsible for this decision and segregated from verified product. Test personnel and Production Supervisors have responsibility and authority to deal with non-conforming product in one or more of the following ways :-

- (a) By faultfinding and rework to restore the item to full, acceptable functionality, verified by a retest.
- (b) By obtaining a concession from Engineering (and from the customer where this is a contract requirement), to release the product for use (under defined conditions if this is appropriate).
- (c) By scrapping the item and disposing of it so that it cannot be mistaken for usable product.

Records of the nature of non-conformities and the action taken to resolve them are maintained and analysed to identify trends that require additional corrective or preventive action. Any product non-conformities detected after delivery are dealt with as customer complaints / warranty returns or via recall as described in Q9 and Q10.

8.7 Identification and traceability

Products and major sub-assemblies are identified by labelling that specifies their manufacturing order and item numbers, which are traceable to the records of assembly and test. Part numbers, names and approval markings are deployed as appropriate to identify the product type and confirm its status in relation to recognised approval criteria. Tested product is identified as verified by the attachment of a label that carries the authorisation mark of a recognised test person. Where the contract requires version control labelling is used to identify the mod state of the product, which is controlled via the Engineering change control process.

8.8 Preservation of product

Methods have been developed to preserve the quality and conformity of products and their constituent parts throughout the process of manufacture and delivery to the intended destination. These methods include production process design, storage, packaging and transit protection that is appropriate for the items concerned and maintains product identification (see Q6, Q8 and manufacturing work instructions).

9. AFTERCARE SERVICES CONTROL

The Commercial Manager is responsible for field service activities, the control and monitoring of the issue of credit notes and control of product returned for any reason. Repair activities and the handling of product returned under warranty is the responsibility of the Repairs Supervisor, who reports to the Commercial Manager. Customer complaints are registered in a database and allocated to the managers responsible for the problem for investigation and resolution. The QM monitors complaints and works with the management team to ensure that complaints are dealt with effectively and adequate complaint records are kept in the database.

9.1 Field service activities

Field service is provided as a part of a contract with a customer, or as a specific response to a customer need. The customer need is evaluated via contract review and the service response is planned to fulfil this need. Fault reports from customers / service users are processed by the control centre. Service personnel are assigned to tasks on the basis of their capability to deal with the need in question. Service provision is supported by :-

- (a) Engineering information relevant to the product or system in question and access to technical advice.
- (b) Work instructions that describe predictable activities in response to contractual needs.
- (c) The provision of suitable equipment, including calibrated measurement devices where appropriate.
- (d) Materials, sub-assemblies and product likely to be needed to effect field repairs or modifications.
- (e) Remote monitoring of product from the service control centre to detect faults and help to resolve them.
- (f) Service response templates and reports that record the tasks undertaken including verification.
- (g) Training and qualification of staff, including coverage of health, safety and environmental issues applicable.

On completion of the activity required confirmation is secured from the customer, where appropriate, that they are satisfied with the service provided. Self-monitoring of service provision is also undertaken to ensure that any contract requirements have been complied with and to identify and implement any further action required.

9.2 In-house repair services and product recycling

Repairs databases have been established to document the investigation and the action taken on returned product. The product is booked in, labelled and assessed to determine if it is under warranty on receipt. If any chargeable work needs to be carried out a customer order is sought to proceed, unless a prior contractual arrangement has been established. Repairs personnel have appropriate skills, access to current and previous issue technical information, suitable test facilities and the necessary tools and materials required to effect repairs on all products still supported by GH. Equivalent replacement product is typically offered in the case of obsolescence. Products are tested by authorised personnel to verify satisfactory functionality, to appropriate specifications, after repair. Records of the repair process are established and maintained via the databases, which allows traceability to the work done & the hard copy records. The databases also provide valuable information on product failure modes and repair actions, which is analysed and acted upon as a part of the monitoring and improvement process described in Q10. Repairs recycle products and materials where appropriate, using designated waste storage facilities for metals, electronics and batteries to facilitate waste handling. Product that qualifies for recycling under the WEEE Directive is collected and processed via the B2B Compliance Scheme.

9.3 Management of customer complaints and warranty returns

A Q-Pulse database is used to document all customer complaints. Complaints are recorded on receipt, investigated by the department(s) responsible and resolved via appropriate corrective and / or preventive action. An inter-departmental management team meets on a regular basis to review all outstanding complaints, check that they are being handled effectively and ensure that any changes required in product design or operational practice to prevent recurrence are understood and successfully implemented. Product returned under warranty is processed via the Repairs Department, as described in 9.2. Causes and costs of complaint and warranty returns are analysed by product type and cause. Any identified trends are referred to the management team for investigation and resolution. (See Q10). The QM keeps analysis & meetings records.

10. PERFORMANCE MONITORING AND IMPROVEMENT

10.1 Continual improvement

GH is committed to the continual improvement of the effectiveness of its management system and has a well-established track record to demonstrate this. The Management Team provide the leadership needed to ensure that this commitment remains a core feature of the strategy, policy and objectives of the organisation as a whole, and ensures that efforts are focused on the real needs of the business, which are evident from the monitoring of performance and customer satisfaction. They also ensure that this focus on improvement is supported by appropriate resources, cascaded down through the organisation and fostered in individuals via appropriate training and development. Kaizen events are often used to help co-ordinator these improvement efforts by broad ranging participation of the workforce and personnel from other Hubbell units in concentrated attempts to enhance specific processes and foster inter-unit integration of best practices. Legislation such as the WEEE Directive is also fostering inter-unit co-operation, because it relates to Hubbell Ltd as a whole not individual business units. Improvements in health, safety and environmental performance are also pursued via the HSE Committee, which fosters participation and consultation on HSE topics throughout the Company. The methodology deployed to achieve improvement is described in more detail in Q10.

10.2 Monitoring performance

Metrics and qualitative measures have been established to monitor the performance of the organisation and its processes (according to their importance) and to review progress in relation to key objectives. These measures cover business, quality, environmental and health & safety performance. Managers ensure that the relevant data and evidence of the effectiveness of controls is collected from throughout the organisation, analysed and presented in an appropriate manner in their department, to the Management Team and the workforce as a whole using the briefing summary and other means. Further information is gathered by specific studies usually related to improvement programmes, corrective / preventive action needs or long term trends that provide insights into the underlying causes of what is going on and are used to focus improvement efforts upon real priorities.

10.3 Internal audits & risk assessments

Internal audits are carried out at planned intervals to assess the effectiveness of the management system and evaluate its continuing appropriateness. Audits are aimed at determining whether the system :-

- (a) Successfully delivers products and services that meet customer requirements.
- (b) Conforms to the requirements of ISO 9001, ISO14001, BS OHSAS18001 and other regulatory / statutory requirements that are applicable, such as the ATEX Directive/IECEX requirements & relevant environmental & health & safety legislation, presently in force or planned for introduction in the foreseeable future.
- (c) It fulfils the policy of the organisation, as stated & explained in this Manual.
- (d) It is effectively implemented and maintained.

The internal audit programme is planned on an annual basis and takes into account the status and importance of the processes / areas to be audited and the results of risk assessments and previous audits, including those carried out by second and third parties. The plan defines the scope of audits, usually in terms of departments and/or applicable procedures. Audits are an opportunity to enhance performance in the area concerned and prevent future problems. Procedure Q10 describes the auditing methods used, the selection and training of internal auditors and the process of reporting and following up on audit findings. The QM is responsible overall for planning and conducting the audit programme and maintaining records using QC028. Auditors are not permitted to audit their own work, to ensure that the results of audits are objective and impartial. Where the auditing process reveals non-conformities or opportunities for improvement a scoring system is used, allocating 1 to 10 points to each issue raised on the basis of its importance, so that actions can be prioritised.

Risk assessments are carried out by the HSEC with the management responsible for each area (see section 7), using the checklist provided in HRWI 2, which covers health & safety and environmental risks. Thereafter surveillance is maintained by risk awareness patrols (RAP) involving most staff and the HSEC monitor risks and evaluate on-going compliance with the Register of Applicable Requirements (ROAR). Risk assessments are documented using an Excel spreadsheet (ADM065) and risks are scored 0 to 25 on the basis of potential impact and likelihood of occurrence, which can be reduced by appropriate controls (see HRWI 2). Evaluations of compliance are documented as for audits, referencing the applicable clauses of the ROAR.

Managers are responsible for promptly investigating the issues raised and taking appropriate corrective and / or preventive action. These issues are followed up objectively, on the basis of an agreed time scale, to verify that appropriate action has been taken and to intensify the focus on any issues that remain to be resolved, until the process of resolution is complete. To facilitate this process management are provided with a list of outstanding actions ordered by the manager responsible.

10.4 Corrective and preventive action

Opportunities for corrective and preventive action are primarily detected via audits, risk assessments, customer complaint and warranty return investigations, management reviews, product/component inspection and test, performance monitoring and improvement programmes. Procedure Q10 describes the process of understanding and tackling the causes of actual and potential non-conformities in which the following factors are important :-

For corrective action :-

- (a) Reviewing instances & trends of non-conformity to determine their cause and mitigate their impact.
- (b) Considering what action is required to address the nonconformity and ensure it does not reoccur.
- (c) Implementing appropriate action and recording and reviewing the results to evaluate their effectiveness.

For preventive action:-

- (d) Identifying potential problems and evaluating the risks associated with them.
- (e) Determining what the causes of these potential problems are and how best to address them to minimise risk.
- (f) Identifying/implementing appropriate action and evaluating its effectiveness. Watching for any side effects.

And in both cases :-

- (g) Care to ensure that the response is appropriate to the magnitude of the problem.
- (h) On-going monitoring to ensure that progress is sustained and to feed back into the process any need for further action E.g. to address previously undetected problems that come to light because of progress made.
- (g) Where new or changed hazards are identified they are evaluated and controlled via risk assessment.

10.5 Management review

Planned management reviews are a part of the audit programme for the year and usually occur on a quarterly basis. The purpose of these reviews is to assess the suitability, adequacy and effectiveness of the management system and its implementation throughout the organisation, to monitor progress in relation to objectives and to identify opportunities for improvement, in policy, objectives, methods, the management systems and their implementation. Reviews are chaired by the BUC and attended by all available Senior and second line Management. As an input to the review the QM, or those responsible, provide reports, which cover the following topics :-

- (a) The results of audits (internal, third party and second party) and risk assessments.
- (b) Feedback from customers & other external interested parties, including Hubbell Corporate & other sites.
- (c) Process performance, product conformity and HSE performance (reported via the briefing summary).
- (d) The status of outstanding preventive and corrective actions, including complaints.
- (e) Follow up actions from previous management reviews.
- (f) Any planned changes that could affect the management system.
- (g) Progress in achieving objectives & targets, and recommendations for improvement.
- (h) Reports from evaluations of compliance with the Register of Applicable Requirements (ROAR).
- (i) The results of participation and consultation via the HSE Committee.
- (j) Incident investigations and follow-up actions.
- (k) Other issues, such as the level of completion of planned training.
- (l) On an annual basis, a report from the Certification Officer that assesses the effectiveness of the management system in ensuring product compliance with ATEX/IECEX certification requirements.

The output from the review is a set of minutes that identify decisions and actions agreed in relation to :-

- (u) Changes to policies or objectives.
- (v) Improvement of the effectiveness of the integrated management system and its processes.
- (w) Improvements in quality, health, safety and environmental performance.
- (x) The improvement of products and services in relation to customer requirements.
- (y) Adherence to regulatory and approval requirements, and the policy direction of the parent company.
- (z) Any resource/training needs associated with these issues and how they will be addressed.

These minutes and relevant data on business performance will be made available to all staff via the notice board and a database to facilitate consultation and participation in the process of continual improvement.