

## ARTICLE – PFI MAGAZINE

### IT'S THE PHARMACY THAT LETS THE PROCESS DOWN

Since the PFI and Procure 21 Schemes were put in place there has been much said about the improved quality of the new hospital and healthcare buildings commissioned by the NHS. For the overwhelming majority of hospitals, the improved target standards of design and building finish appear to be achieved with one outstanding exception. The areas that give the Trusts a continuing problem are those that must meet the requirements of the Rules and Guidance for Pharmaceutical and Distributors Manufacture published by the Medicines and Healthcare Products Regulatory Agency (MHRA), formerly known as the Medicines Control Agency. The types of facility that come under these rules are typically central pharmacies, facilities that manufacture nutritional products for therapeutic purposes, oncology pharmacies, tissue culture laboratories and radio-pharmacies. In addition central decontamination facilities in which operating theatre instruments are decontaminated, sterilised and repacked will also need to meet the general principles of the above guide as applied to medical devices.

The core problem in adequately specifying such areas lies in the general nature of the published guidance which give broad requirements in terms of general standards that a facility must meet but little help in terms of how to achieve those standards. As a result there have been a number of occasions when pharmacies and other similarly regulated areas have either been badly designed or inadequately constructed such that they offer little or no advantage over the old and sometimes decrepit facilities they are replacing.

What is also not understood by the many parties engaged in the process of designing these facilities is the role and responsibilities that the regulators have in the approval and hence licensing of pharmacies and their like. In order to clarify this matter in a practical way it is necessary to understand where the responsibilities lie from a statutory and contractual basis:

- The MHRA is an independent body funded by the Ministry of Health to control the quality of medicines, medical devices and indeed veterinary products manufacturers and distributed to the public.
- The MHRA carry out this work by reviewing and ultimately approving two principle elements of the production cycle (a) the facilities in which the products are to be manufactured, and (b) the processes used during the manufacture and the related quality assurance procedures used to ensure that the standards and specifications of all elements met are within prescribed limits.
- In the context of a PFI or Procure 21 Scheme the ultimate responsibility for setting the standards lies with each NHS Trust and, in particular, the responsible person employed to approve the method of manufacture, the quality standards and product safety issues. It is this person that ultimately will approve the release of the medicine or medical devices for use in the clinical environment. The responsible person is often the Manager of the Pharmacy or Department Head and is the equivalent to the Qualified Person, with a pharmaceutical company, that releases products for sale.
- In a new construction project, the NHS Trust will establish the specification and standards for the facilities and these will ultimately be enshrined in the contracts that will bind the concessionaires and contractors that are responsible for designing, constructing and commissioning the unit.

- The concessionaire will in turn expect the designers to carry out their duty by complying with all of the standards, specifications and codes of practice in order to meet the underlying requirements of the guidance notices that apply.
- The contractor in turn will rely on the suitability and accuracy of the designers documents to construct the new facility but must also have the necessary experience to ensure that the materials he uses and the standards of construction employed are compliant not only with the specification but also the requirements of the MHRA. Such facilities are then reviewed by the Medicines Inspector who will ultimately approve the facility.

Whilst the methodology of the above is clear, unfortunately there have been many instances where the designers and the contractors have failed to properly meet the standards for what, at first sight, appears to be a simple and relatively small element within a major hospital construction programme.

In general the following documents need to be consulted when developing the design and specification of the specialist areas within hospitals:

- (a) Accommodation for Pharmaceutical Services, Health Building Note 29 – Publisher, The Stationary Office. First published 1997 (ISBN-0-11-322057-x).
- (b) The Rules Governing Medicinal Products in the European Union – Volume 4 Good Manufacturing Practices, Medicinal Products for Human and Veterinary Use – Publisher, Office for Official Publications of the European Committees (ISBN-92-828-2029-7).
- (c) Rules and Guidance for Pharmaceutical Manufacturers and Distributors 2002 – Publisher, Medicines Control Agency (ISBN-011-3225598) [The Orange Guide].
- (d) Guidance Notes for the Protection of Persons against Ionising Radiation arising from Medical and Dental Use. Published by the Nuclear Radiological Protection Agency 1998.

The interpretation of the above rules are crucial to the successful outcome of a project that is to meet the general standards of Good Manufacturing Practice (GMP) familiar to the pharmaceutical industry. It must clearly be understood that in the eyes of the MHRA the “User” of any new facility retains the responsibility for ensuring that it meets the standards required in the guidance notes. In this regard the NHS Trust or its equivalent in the private sector will be the primary interface with the Medicines Inspector and this position cannot be passed down to the concessionaires or the contractors employed to operate or build the facility. It should also be noted that the Medicines Inspector may be willing to comment on designs as they progress, however, they will not act as a “consultant” to the project nor will they resolves faults in the design or constructed works.

It is essential that a User Brief is developed that will allow the design team to properly specify the works for the Contractor. Often the users have defined the space and capacity requirements and then relied upon reference to the guidance notes stated above as a basis upon which the designer is to proceed. This is all very well provided the design house has in depth knowledge of Good Manufacturing Practice. In many instances this has not been the case and as a result the final quality, operability and fitness for purpose of the facility has been wholly inadequate. In fact a Medicines Inspector who had become completely exasperated by the lack of rigor in the procedure stated that in his view “the designers and contractors hadn’t got the faintest idea regarding GMP”. Whilst all designers and contractors cannot be tarred with the same brush there have been a sufficiently high number of cases in which the users have been extremely disappointed with the standards of their new facilities. This situation has led to facilities not being accepted by the responsible NHS Trust and in some cases the disputes mechanism within the contracts has been put into operation.

Whilst it is easy to blame the contractors and their design teams, it is not entirely their fault. In many instances the Trusts turn to their internal staff to specify the facility but all too often these staff have limited time and lack the essential training and experience to define their requirements in an adequate manner. Even worse, many pharmacists can only judge the standards that are required by the facilities in which they currently work. Such facilities were often constructed over 20 or 30 years ago and provide no guidance as to the requirements of a modern GMP facility.

How should this problem be tackled? The NHS Estates will rightly argue that the procurement methodology should require specialist designers and contractors to be employed by the main contractors particularly for specialist areas such as pharmacies and operating theatres. In some cases this approach has been adopted with success. The other route may be for the NHS Trust to employ suitably qualified consultants to provide the essential support at the planning stage of any new GMP facility. This approach would provide advice to the operators and assistance to the contractors throughout the design and construction phase. The same services could be provided via the Independent Certifier since he would also require expert advice concerning the adequacy of the design and construction aspects of any specialist area.

The stages of project development leading to a certified facility should generally include the following:

#### BRIEFING STAGE

The development of a User Brief that will include but not necessarily be limited to the following key information:

- Capacity
- Products
- GMP Standards
- Safety Issues
- Operating Requirements
- Staffing
- Architectural Finishes
- Environmental Standards
- Quality Assurance and Validation Requirements
- Emergency Planning
- Equipment Requirements
- Interfacing Equipment and Processes into the Facility
- Interfaces between the Specialist Unit and the general Hospital operations

#### DETAILED DESIGN STAGE

Development of the User Requirement Specification and Functional Specification of the facility. This will include the development of the detailed design documents including drawings, specifications and standards.

#### QUALITY PLAN

In parallel with the detailed design, a quality plan should be established that will include the necessary stages of validation or facility qualification. These include:

- Design Qualification to confirm that the design fully meets the requirements of the User Brief.

- Installation Qualification to confirm that the installation fully meets the requirements of the design.
- Operational Qualification to confirm that the facility in particular the services and utilities that could have an effect on the quality of the product operate in accordance with the design requirements and the User Brief.
- Performance Qualification refers to the performance of specialist equipment such as autoclaves, isolators, microbiological safety cabinets and process utilities such as water for injection.

The Medicines Inspector will expect that the above sequence of activities has taken place and that the facility operates fully in accordance with the guidelines in a robust and reliable manner. In order to achieve this stringent cycle of events it is advisable firstly to develop a master plan that is approved by the responsible person representing the Trust. Each phase of qualification should be controlled by protocols that are agreed and approved prior to the tests being carried out. Finally a Validation Report should be drafted that will bring together all of the strands of the quality procedure in a format that will help the Medicines Inspector during his inspection of the facility. The complexity of the validation work will depend upon the risk assessments relating to the product quality and these need to be considered in a practical and pragmatic manner to ensure that the procedure is not excessive.

The essence of the procedure must be such that the Medicines Inspector is left in no doubt that the facility has been designed to meet the various standards that apply. The onus is on the end User to prove that the facility and the operations that take place within it are at all times under control and that appropriate data is logged in order to record the history of the key operating parameters of the facility.