

## Recommendations by the Committee for Hygiene, Construction and Technology

# Requirements for construction or reconstruction of a Reprocessing Unit for Medical Devices (RUMED)

## Part 2 – Planning

Authors: A. Carter, U. Haffke, A. Jones (Coordinator), Dr. M.Th. Linner (Coordinator), S. Lutzenberger, Dipl. Ing. M. Scherrer, Dipl. Ing. F. Stenger, A. Wentzler, K. Wiese  
E-mail: [hbt@dgs-ev.de](mailto:hbt@dgs-ev.de)

### I Organization/scope of competence for planning

Part 2 of the publication "Requirements for construction or reconstruction of a Reprocessing Unit for Medical Devices (RUMED)" describes the basic organization and sequence of construction planning.

An organigram "Scope of competence for construction planning" gives examples of competencies and of the legal fundamentals, while the text below describes the planning sequence normally used for the various phases.

#### *Organigram showing the scope of competence for planning*

The organigram illustrates a simplified structure of a planning process. The structure is divided into two levels: operator and planning engineer. Both parties are represented by the respective project managers.

- The proprietor/operator of the healthcare institution appoints a person to take responsibility (the competent person) for this project. This competent person coordinates all internal communications and negotiations with the users and with the infection control committee. Normally the project manager appointed by the operator will be the head of the engineering department, a project group or the operator himself. The operator's project manager will be the sole contact person for the (project) planning engineers. The users are the departments affected by the planning, e. g. the RUMED management – those **responsible** for medical device reprocessing.
- At the planning level, the contact person is generally the architect who coordinates the engineers involved in the project.

A large part of the communications and negotiations must take place during minuted user meetings with the competent persons.

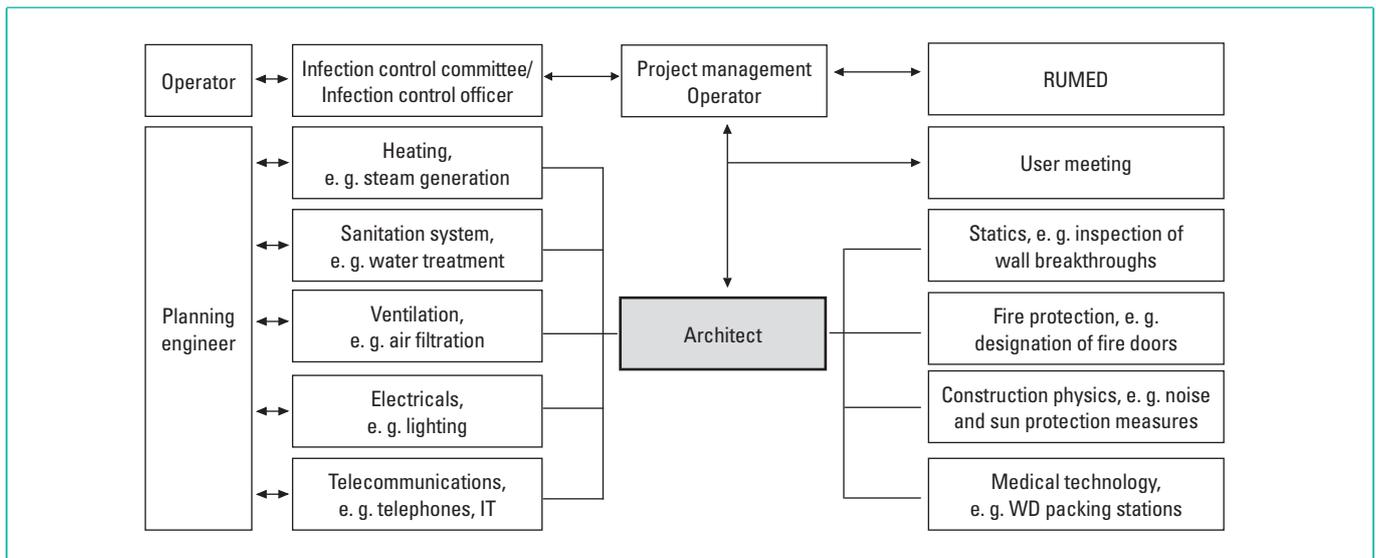
#### *What are the possibilities for collaboration?*

For the RUMED management/designated competent persons:

- Gather information (literature, inspection of other departments, exchange of experiences, obtain product information documents)
- Participate in user meetings, request minutes
- Prepare well for meetings, ask concrete questions, record figures (e.g. quantities, amount of work, working hours, etc.)
- Preparatory negotiations with the infection control committee/infection control officer
- At meetings: put forward and justify proposals and objections, and have them minuted
- Read the minutes and forward objections in writing to the project manager
- Request plans, inspect them and have them explained, if necessary
- Request explanation of project sequence

*Competent persons for MD reprocessing are the RUMED management/Designated medical/dental assistants*

*Play an active role, attend meetings, read the minutes and, if necessary comment on them*



Organigram: Scope of competence for construction planning

## I Planning steps

Planning a new construction or reconstruction of a RUMED is generally part of a comprehensive target planning activity for long-term development of a medical institution. Within the framework of target planning the operator also specifies how and in what order all future building projects are to be executed within the medical establishment within a reasonable timescale.

*Operator provides information*

### 1. TARGET PLANNING

This encompasses forward planning for medium- to long-term development of the medical institution

*Participate early on in all planning steps*

- New construction of a RUMED
- Restructuring of the functional departments of a hospital/medical practice resulting in changes to the location or size of a RUMED
- Changes to the range of services provided by the RUMED

Target planning is followed by concrete planning for development of the different functional areas, e. g. the RUMED:

- Devise a spatial and functional programme for the intended new area.
- Preplan the functional area
- Draft planning, etc.
- Final planning which will be implemented.

Planning always proceeds from the major to the minor, from the general to the detailed. With each step the planning activity assumes a more concrete form and, as such, becomes less flexible. This means that the more advanced the planning stage, the greater will be the effort to make any changes to the planning process.

The earlier the operator enlists the involvement of the persons responsible for medical device reprocessing, and its conduct, as well as the involvement of the infection control specialists in the planning process, the easier and more effective will it be to incorporate their experiences into that process. This has a positive impact on the timescale, costs and outcome.

### *What are the possibilities for collaboration?*

*Signal any needs, gather information*

- Signal needs, e. g. regarding where to locate the RUMED, room sizes
- Enquire about future volume of operations
  - e. g. reprocessing for other users,
  - Change of reprocessing methods,
  - Change of working hours

Below are explained in chronological order the terms employed in the planning steps based on the performance phases of the German Fee Structure for Architects and Engineers (HOAI).

## **2. BASIC EVALUATION**

This result is crucial for determining the floor space required for the department, see Part 1 Basics, e. g. analysis of the volume / range of devices to be reprocessed/reprocessing methods,

- Analyse of performance
  - Inventory
  - Analysis of requirements/user analysis
  - Prognosis for future performance
- Analysis of the current inventory situation (surface areas, equipment, installations)
- Analysis of routing and storage facilities, etc.

### ***What are the possibilities for collaboration?***

For example, record:

- The number of operations, taking account of the medical discipline, volume of medical devices and other materials to be cleaned, disinfected, dried, possibly packed but not sterilized.
- Volume of medical devices delivered at particular times to the RUMED for reprocessing, and which are transported or stored
- Selected packaging systems
- Selected reprocessing processes
- Other specific requirements e. g. operating hours

*Analysis of requirements, supported by figures/data/facts*

### ***Results of basic evaluation:***

Summarized spatial programme, e. g. in tabulated form, already setting out concrete details of the sizes needed for the various rooms of the future RUMED.

*Check whether requirements were taken account of in the spatial programme*

## **3. PRELIMINARY PLANNING, PLANNING PREPARATION (SCALE 1:200)**

- Reach agreement on the targets pursued by participants, e.g. spatial relationships based on experiences, transitions at the interfaces between areas, sluices, etc.
- Draw up a variety of designs (e.g. in the form of floor plans) of the department to facilitate decision-making on the basic layout

### ***What are the possibilities for collaboration?***

Express specific needs based on one's own experiences, e. g. regarding:

- Routes
- Different areas of use
- User habits
- Storage/archival
- Location of rooms with respect to each other

*Contribute experiences – become involved*

### ***Results of preliminary planning:***

An initial drawing of the department, as floor plans showing the rooms, room sizes and location of rooms with respect to each other, but without any furnishings or other details. This will have been agreed with all participants and should be further developed.

## **4. DRAFT PLANNING (SCALE 1:100)**

- The preliminary planning specifications now assume a more concrete form when the following have been agreed: design, principle material specifications, technical installations (e. g. media supply water supply, ventilation systems, etc.), fittings (washer-disinfectors [WDs], endoscope washer-disinfectors [EWDs], sterilizers, reprocessing circuits, packing stations, etc.)

### ***What are the possibilities for collaboration?***

Based on its experience and expertise, the RUMED management calculates the fittings and installations needed:

<i>Reach agreement on, and specify, equipment and other fittings</i>	<ul style="list-style-type: none"> <li>– Equipment and accessories needed to meet the range of services provided, e. g. WDs with different loading trolleys</li> <li>– Furnishings based on working practices</li> <li>– Media connections for equipment and furnishings, e. g. demineralized water, compressed air, IT facilities)</li> <li>– Reach agreement on the operating materials needed in terms of quality and quantity, in accordance with process cycles, e. g. WD programmes</li> <li>– Express one’s own contingency concept</li> </ul>
	<p><b>Results of draft planning:</b>          Planning that has already determined the exact allocation of the rooms (room numbers), fittings and materials within the RUMED.          If publicly funded, give details additionally of construction budget:</p> <ul style="list-style-type: none"> <li>– Specify total construction sum/scope of construction based on draft planning</li> <li>– It will no longer be possible to extend this scope</li> </ul>
	<p><b><u>5. APPROVAL PLANNING (SCALE 1:100)</u></b></p> <ul style="list-style-type: none"> <li>– The plans are submitted for approval to the authorities in the form of a building application.</li> <li>– For reconstruction projects the structural changes are indicated.</li> <li>– The following documents must also be presented: expert opinions (fire, noise protection, statics), operating descriptions, description of working practices and a statement by the hospital infection control officer.</li> <li>– The building authorities forward the plans for expert assessment, e.g. to the Regional Council, Public Health Office</li> </ul>
<i>Operator gives details of conditions imposed by authorities</i>	<p><b>Results of approval planning:</b>          Building approval with comments and conditions from the authorities</p>
<i>Comment on conditions</i>	<p><b>What are the possibilities for collaboration?</b>          Obtain information e. g. on conditions and any amendments imposed by the authorities, e. g. regarding</p> <ul style="list-style-type: none"> <li>– Working practices</li> <li>– Spatial programme</li> <li>– If necessary, justify any comments on the conditions, amendments and specific requirements</li> </ul>
	<p><b><u>6. FINAL PLAN (SCALE 1:50 TO 1:10)</u></b></p> <ul style="list-style-type: none"> <li>– The plans details are further refined with regard to the floor plans, views, fittings, furnishings, etc.</li> </ul>
<i>Specify details of fittings</i>	<p><b>What are the possibilities for collaboration?</b>          Agree exact details with engineer, e. g. location of</p> <ul style="list-style-type: none"> <li>– Power sockets</li> <li>– Wall dispensers</li> <li>– IT facilities</li> <li>– Lights</li> <li>– Location of demineralized water facility in the workstation</li> </ul>
<i>Check the agreed fittings Release final plans</i>	<p><b>Results of final plans:</b>          Exact plans that can be used for invitations to tender and to enable the contractor firms to construct and equip the department under the supervision of the architects or engineers.</p>
	<p><b><u>7. TENDERING AND AWARD</u></b>          Performance descriptions are formulated for invitations to tender.</p>

The performance description contains

- Details of all materials and items of furnishings to be installed, e. g. quantity, quality, function and capacity.
- For publicly funded projects, the tender normally must not specify any specific brands

**Results of tendering:**

Award of contracts based on assessment by the operator/proprietor of the offers received.

**What are the possibilities for collaboration?**

- Inspect tenders

**Building and construction monitoring:**

- Implementation of construction plans ensuring that the plans are implemented as specified in the preceding planning steps.

**Monitor implementation**

**What are the possibilities for collaboration?**

- Express desire to inspect building site
- Express desire to see samples

**Take part in visits to building site and in acceptance**

**Completion of construction measures:**

Acceptance and commissioning

**Note:**

The measures taken for reconstruction will be described in a forthcoming publication.

