

# RDSS: a long journey

DMJ's **Graham Maynard** discusses the benefits of the Rapid Deployment Shelter Systems now used by the MOD...

**M**y first involvement with Rapid Deployment Shelter Systems (RDSS) was many years ago, trying to avoid some foul weather in the Scottish Highlands on an escape and evasion exercise; the RAF had kindly provided a 'Poncho' cape and a length of parachute cord, nature, a few branches and fern leaves: sad to say, the kit didn't work! Much later, when buying deployable aircraft hangers and sunshades, I was impressed to find out just how much things had changed. Indeed, RDSS technology has now reached the stage where soldiers and sailors are saying things like: 'Everyone that came out on Op Telic has said the temporary camps are amazing'.

At this point, I should perhaps apologise to the reader, who will note that, more than once in this article, I refer to KBR and Rubb. The reason for this is that I can personally vouch for their offerings, as I have seen most and used a number of them. Of course, there are many other suppliers with excellent products, as a quick web search will prove, but there is nothing like being able to talk about things from first-hand experience.

## Full spectrum provision

The earlier quote refers to camps erected by KBR, who have supplied a wide range of Temporary Deployed Accommodation (TDA – see picture below) to the UK MOD.

Now KBR occupy an interesting place in the market because they do not make RDSS, but they do project

manage, supply, move and erect what can be massive installations, which incorporate fuel and water storage, gyms, workshops, dining halls, offices, or medical and communications facilities. The KBR TDA shown provides all such capabilities and offers a highly sophisticated, integrated solution, which is an industry benchmark.

At the product level, there are a whole range of excellent structures, including for:

- Aviation – hangars, air cargo and terminals;
- Tactical HQs – communications, IT systems;
- Logistics – workshops, laboratories, laundries, kitchens;
- Medical – surgical, intensive care.

The MOD Directorate of Equipment Capability (Expeditionary Logistics and Support) are considering acquiring many of these structures under the heading of 'Expeditionary Camp Infrastructure' (ECI), although there are funding and affordability issues.

There are five main benefits to the RDSS; they:

- Take up little storage and are easy to transport;
- Can be fully erected speedily by small teams, ideally with no requirement for heavy lifting equipment;
- Once erected, components can often be interlinked to form larger facilities;



*Temporary Deployed Accommodation (TDA) Camp in Iraq*

- Can be climatically controlled;
- Can be recovered for use elsewhere and, in some cases, for different purposes.

Basically, RDSS comes in three forms. Firstly, a strong membrane cover on a metal framework; the membrane is far more impervious and durable than canvas. Secondly, a metal framework into which preformed wall and roof panels can be assembled like Meccano; and, thirdly, built around lightweight ISO standard shipping containers that form the structure, and also provide space for ‘on-board’ power generation, lighting and air conditioning equipment. This kind of kit can be easily developed to offer both NBC and EM protection.

At one end of the RDSS continuum are self-contained, soft-skinned camps with utilities including power, environmental control, water, cooking, refrigeration, waste water management, ablutions and dry waste disposal. Normally, living accommodation would be separated from working accommodation with generators being as far away from everything as possible. Somewhere in the middle of the continuum comes Rapid Erect Hangars (REH), typically comprising of membrane covered metal trusses that can be erected without the use of a crane. REH can accommodate fixed wing fighter aircraft and twin rotor helicopters. Rubb Building Systems make a number of these kinds of structures, which are used extensively by the Royal Air Force, and are really good.

Then, at the other end of the continuum, are massive buildings like sports halls and the Environment Stabilization Systems (ESS), the latter developed to meet demand for dehumidified aviation and military equipment storage. An example is the ESS created by Logis-Tech, Inc. for the US Navy in Florida. The Logis-Tech ESS system provides storage, dehumidifiers, air distribution and some sophisticated data acquisition systems within a 43m clear span structure 76m long, with 5m sidewalls. It has the capacity to store 20 Grumman EA-6B aircraft with wings folded. The facility provides cost-effective, energy-efficient, long-term, low humidity storage so that the aircraft are maintained in a high state of readiness for quick recommissioning.

**Requirements of RDSS**

RDSS are being used across an increasingly wide range of activities but anyone considering using them must take account of some fundamental requirements; these include, but are not limited to:

- **Erection and dismantling:** whilst the more cynical believe that there are no such things as temporary buildings (because once up, no-one will ever agree to take them down, and there is evidence to support this accusation), the reality is that RDSS do have to go up and come down, so it’s best to buy equipment that is built and removed easily without cranes or other specialist mechanical handling aids;
- **Refurbishment and repair:** despite endeavours to the contrary, unfortunately, things always get broken and torn, so you should consider ease of maintenance as part of the acquisition criteria;

- **Durability:** durability is essential, not only to withstand repeated erection and dismantling, but also because it is almost a given that RDSS finds itself being sent to places where the climate is harsh, the wind blows hard, the sun shines hot or the snow falls heavily;
- **Safety:** safety is always a procurement issue but, for RDSS, the more so because, at the procurement stage, you may not always know precisely what environments and for what purposes the kit will be used, and different applications obviously bring different safety considerations;
- **Flexibility:** a number of products are designed to perform more than one function, or to be linked to support another functionality: this can be advantageous and again needs to form part of the assessment criteria;
- **Movement:** since the RDSS is, by definition, deployable, you need to think in advance just how it might be deployed because dimensions and weight may be important, for instance, if the equipment is likely to go by air. Remember, also, that multi-modal transport is likely (sea/road) and that the kit will probably end up in the ‘back of beyond’, where moving it on-site might be both hazardous and difficult;
- **Through life costs:** remember that all of the above will feed through to the Cost of Ownership Model, which, because of the nature of the beast, may produce quite different results from those you would anticipate for normal structures;
- **Through life support:** a blinding glimpse of the obvious but the key here is to procure RDSS that can really earn its keep: ‘buy once, use many times’ comes to mind. To achieve this, you will need to consider a number of through life support options and ensure that the one you select is sustainable.

Lastly, a word of warning. Despite the many advantages of RDSS, readers must remember that it does have limitations, which include:

- Not ideal for long-term use and should be seen as an interim solution until more permanent accommodation can be found;
- Less robust than permanent accommodation and likely to be costly for long-term use;
- Offers little protection from blast or attack and cannot be easily fortified.



**Graham Maynard**  
**Defence Management Journal**  
**Ebenezer House**  
**Ryecroft**  
**Newcastle-under-Lyme**  
**Staffordshire ST5 2UB**  
**UK**  
**Tel: +44 (0)1782 620088**  
**editorial@publicservice.co.uk**  
**www.publicservice.co.uk**