

## FOBEX 10 – POWERFOB

A Forward Operating Base (or FOB) is a military base which provides troops with a secure location to operate from in forward areas. A FOB may be used over extended periods of time and although not able to provide full support facilities, it provides the infrastructure troops need to survive in the field, including accommodation, living/dining quarters, even an airfield in some cases.

Because of their remote locations a FOB must be self sufficient – in forward areas there are no power grids to plug into. The base must provide the power needed to support the all of the infrastructure. Currently all bases are powered by diesel generators, necessitating regular and hazardous resupply convoys.

The MoD is seeking ways to minimise the need for these convoys by providing power for a FOB by sustainable means

The Capability Vision – Reducing Dependence on Fossil Fuel seeks to utilize technology to significantly impact the amount of fossil fuel Britain's Defence Forces use. A particularly challenging part of this problem is that of allowing forward bases to operate effectively while minimising / removing their need for a fuel supply chain. Such a concept presents a significant technological challenge but offers major military operational benefits and reducing vulnerability of the logistics tail.

The Ministry of Defence (MoD) FOBEX programme offers the ideal opportunity to demonstrate and test these concepts in a realistic tactical environment



The **FOBEX** programme, launched in Nov 10, is trying to treat the FOB as a system which will allow industry to apply a systems engineering approach to it. All aspects of a FOB are being examined; from helicopter landing aids to low power laundry solutions. A particular strand of the programme called **POWERFOB** has been initiated which will allow the MoD to seek ideas and technology that could either reduce the energy requirements of a base or provide alternatives to the diesel generators.

Any alternative power systems must provide a similar level of electrical power, with the same degree of robustness / resilience, and remove the logistics burden of transporting fuel to the base. There must be no compromise to the effectiveness of the operations.



## **POWERFOB – AIM**

The aim of POWERFOB is to reach out to industry, including those not traditionally associated with Defence, and provide you with an opportunity to showcase and demonstrate your products and technologies to the MoD and its partners.

A testbed will be provided and run by MoD and partners to enable suitable evaluation and independent performance assessment of commercial technologies in a military environment.

The results will be used by MoD and partners to inform decisions on future equipment procurements and urgent operational requirements.

Ideally a solution or range of solutions will be found which will enable us to power a typical FOB (50KW) using no diesel at all; however even part solutions are of interest.

## **POWERFOB - Partners**

Interested participants have the opportunity to demonstrate their products and concepts to a range of potential customers which is not solely limited to the MoD. This subject is of interest across national government and also at the international level. To maximise coordination, the programme is being run in collaboration with the British Antarctic Survey and the Canadian Department of National Defense (DND), who face similar problems and issues to MoD. The United States Marine Corps are running a similar programme and will also be in attendance.

Various other UK government departments, who have a need for power generation in remote locations, are also participating as well as invited charities who specialise in overseas disaster relief

## **POWERFOB – Power requirements**

Ideally, we are looking for scalable solutions which can provide power to a tactical base more efficiently to reduce the base fuel burden. The systems we are interested in range from:

500W+ – low power sensors

5KW – small tactical bases

50KW – medium tactical bases

As there is no 'generic' tactical base, modular solutions which can be combined as needed for smaller or larger bases are of interest.

## **POWERFOB – Topics of interest**

Although more efficient generators offer one possible solution, to minimise the dependence on regular resupplies of diesel, renewable technologies are of great interest. A systems approach will be adopted so whilst a single technology may not be the answer it may be possible to combine a number of different approaches in order to supply the power needed. These include but are not limited to:

Solar

Wind

Generation from onsite resources such as waste

Power storage solutions

Hybrid solutions

Efficient power distribution

Any equipment submitted has to be capable of deployment to the battlefield. Equipment has to be robust, rugged, able to operate with minimal maintenance and supervision, easy to transport (from a small trailer up to a 20ft ISO container) and to deploy.

What we are not interested in at this time:

Wave or Tidal generation

Technology requiring significant on-site construction resources ie large size fixed wind turbines



## POWERFOB – Approach

The programme consists of 4 main activities:

- Expression of interest. **Open until Feb 9th** - Companies are invited to register their interest in the programme and will be sent further details plus a simple proforma to fill in and return
- Military Judgment Panel. **Conducted Feb 10<sup>th</sup>** – A panel of experts from MoD and partners will conduct an initial sift on the received proformas to assess if the proposed solutions meet requirements. The panel will then invite successful companies to the next stage and provide feedback to those who do not make it through
- Level A trials. **21<sup>st</sup>- 25<sup>th</sup> Feb.** – Invited companies will be given the chance to show their products and concepts in a military environment (Carewent training FOB, S Wales) where a more thorough assessment will be conducted. Although performance measurements will not be taken equipments will be assessed over a range of criteria including portability and robustness(details in the information pack)
- Level B trials. **July 11** – Successful level A attendees will be invited to performance trials in a representative environment to show how their kit performs in real conditions

### Register interest

If you would like to take part in the POWERFOB programme, please register your interest by sending an email with full contact details to [ray.fielding937@mod.uk](mailto:ray.fielding937@mod.uk)