



REverse logistics

Gary Sullivan OBE FCILT updates us on the extreme logistics projects that the Royal Engineers face.





Building to UK standards, with no natural resources means that all materials and equipment have to come from the UK

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The UK construction industry has, for a long time, used materials and products from around the world, and over 60% of materials on major projects arrive in the UK by boat. However, the Royal Engineers (RE) have a unique twist to their latest project, where 99% of the material for the project is sourced in the UK, consolidated in Ripon, North Yorkshire, and then delivered 8,470 miles away to three mountain tops in the Falkland Islands. This is extreme logistics.

The RE are used to working overseas. In the last 15 years, they have tended to operate in the hot climates of Iraq, Afghanistan and Sierra Leone. A windswept archipelago in the South Atlantic, just 500 miles from the Antarctic, where even in the summer temperatures rarely enter double figures, is a new challenge. The extreme weather is only one differing factor for the RE. Although they are soldiers deployed as the British Army, for Project Anemoi they are working for the Defence Infrastructure Organisation (DIO). Project Anemoi is replacing the accommodation at the top of three mountains in the Falkland Islands, Alice and Byron on West Falkland (population 330), and Kent, overlooking Port Stanley on East Falkland (population 2,250). Built by the RE after the conflict with Argentina in 1982, to house the RAF's radar operators, the original buildings have finally worn out.

This phase of the project is being delivered by 21 Engineer Regiment. The Squadron Commander for the logistics element is Captain Tony Davies, who smiles as he describes Project Anemoi: 'It is a logistics operation with a little bit of construction tagged on the end.' Of course, he is teasing those colleagues engaged in the building process. However, the task to deliver all materials, except the type one stone used for batching concrete, is no mean feat.

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SECTOR HIGHLIGHTS



Anemoi, from the Greek for wind gods, brings together the many elements of the RE to deliver new-build, permanent, single-storey accommodation to three separate locations, to last for the next 30 years. The RE are most of the way through phase 2, the substructure works, of a five-phase programme that will take three years to complete. The weather is too extreme in the winter to be able to work. Phase 5 is the demolition of the existing structures and their removal back to the UK.

Building to UK standards and with no natural resources or manufacturing, other than the stone from a quarry on the island, means that all materials, plant and equipment have to come from the UK. When your only procurement option is over 8,000 miles away, you have to have a plan for every part and a part for every plan. If you forget just one item, the delay to the build could be over eight weeks.

Procured from around the UK and delivered to the consolidation area in Ripon, the journey south to site requires boats, planes and automobiles, and begins with every item being checked and rechecked before beginning the first stage of this complex and exceptional journey to the South Atlantic. Of course, this has been done before;

Consolidation of material at Mare Harbour



Above: Project Anemoi is replacing the accommodation at the top of three mountains in the Falklands Islands

Below: Extreme terrain and conditions can make the project an even tougher task

but back in 1982, merchant ships were commandeered. This time, it has to be done within a budget, whilst using existing resources. The RE also have a mandate not to disrupt the existing supply chain arrangements for the Falkland Islanders as they go about their day-to-day business. The economic activity, mostly farming and the supporting services, has to continue without interruption.

The trucks roll into the army's Sea Mounting Centre at Marchwood on Southampton Water, where the containers are offloaded. The Falkland Island Resupply Ships (FIRS), operated by Foreland

shipping for the MOD, are roll-on/roll-off sealift ships with a displacement of 23,000t. Once on board the ro-ro ferry there is no opportunity to change your mind, it is a six-week journey to the Falklands.

The RE are only allocated space for 70 ISOs, which they double stack, and there is only one ship every five or six weeks. On arrival at Mare Harbour on East Falkland, the ISOs are taken ashore for inspection by the government and are screened for biohazards. Once checked, the army gets to take them into the tactical logistics base some 35 miles from Stanley. Mount Kent is close, but Mounts Alice and Byron are still some 220 miles away.

The ISOs are stacked and checked again. Counting bags of sand, cement and steel reinforcing bars is laborious, with the biting cold wind making the job even more difficult. It is a thankless but necessary task for those operating under the watchful eye of Staff Sergeant Phil Leyland and his team. From here, the materials are requested or pulled forward by the construction teams for the 220-mile journey across the Falklands to site. It is far from straightforward. The roads on East Falkland are partly blacktopped, but there are high winds and although it is summer now you can have snow, sleet and sunshine in the same morning. The route from Mare Harbour goes from one side of the island to the other, past Goose Green then on to New Haven to meet the next ship, *The Concordia Bay*.





The *Concordia* is a 45.5m landing craft built in Malaysia in 2006. It is flagged in the Falkland Islands as a passenger/cargo vessel and owned by Workboat Services Ltd. As a passenger vessel, it has facilities for up to 30 day passengers, but no overnight facilities. It makes on average 350 crossings a year. However, the RE have added to that number to ensure the flow of material to Mounts Byron and Alice is maintained. The skipper and crew are pleased to have the army as a customer. They appreciate the degree of difficulty involved in this project and have developed a great working relationship with the soldiers. Crossing Falkland Sound

takes about one hour and forty-five minutes, and the waves crashing over the bow are a reminder that the Southern Ocean is just a few nautical miles away. As you arrive in Port Howard, you realise it is less of a port and more of a slipway, with just a few homesteads and sheep for company. UK standards still apply and drivers' hours are an issue. Drivers and trucks stop overnight in a sheep shearers' shed, rented from the local farmer.

To supplement the ferry service, the RE have employed the service of a Dutch barge The Damen Shoalbuster *Dintlestroom* and its work barge *MP3002*, operated by Dutch contractor Van Wijngaarden Marine Services. The vessel supports a contract placed with the Netherlands-based company by the MOD to provide harbour support, mooring, maintenance, general support and coastal resupply services.

The roads on West Falkland are a mix of metalled roads and farm tracks. The 12t payload of the ManSV trucks make it a slow and boneshakingly painful drive, with an average speed of 15mph. The attrition of tyres and windscreens is significant and for the Royal Electrical and Mechanical Engineers (REME) fitters it is a challenge to keep the trucks on the road. The REME, too, had to plan for spares. The extreme terrain has taken its

toll, but they have kept the trucks rolling and the concrete mixers turning. The last few miles to the top are slower still. When there is snow, the trucks have to unload at the bottom and use the tracked BV206 Bandvagn all-terrain vehicle (ATV) to haul materials to the top.

The air bridge is provided by the RAF's Voyager (based on the modern Airbus A330-200) and, in conjunction with the Boeing C-17A Globemaster III, provides the passenger transport to move the RE to and from the South Atlantic. They can, of course, carry cargo, too, but there are many demands for space for the military folk based on the islands.

The British Army has undergone many changes recently, including adapting to what it calls the Whole Force, where the Regulars, Reservists and the private sector work together to provide the required effect. Why then is the RE delivering a commercial-style contract that might otherwise be delivered by a private contractor? Major Chris Hulme, Officer Commanding, explains: 'The extreme location and the extreme weather call for extreme logistics. The skills we have in the RE allow us to operate in all areas of the world, which makes us very a very able option for the DIO. This is also a chance for [the RE] to develop our skills further and to use the investment of our training to deliver a value-for-money outcome for the UK taxpayer.'

The project will continue until 2018 and our servicemen and women will gain valuable experience. The view is that the armed forces are more likely to be involved in expeditionary operations, whether that is peacekeeping, humanitarian aid or combat. Whatever they are asked to do next, we can rely on their knowledge and their ability to deliver in any part of the world.

About the author

Gary Sullivan OBE FCILT is Chairman, construction logistics contractor Wilson James Ltd. He is also a Colonel in the Engineer & Logistics Staff Corps and co-author of *Managing Construction Logistics*.

Below: Anemoi brings together many elements of the Royal Engineers to deliver new, permanent, single-storey accommodation

