



## Success Story

Rolls Royce Distributed Generation Systems (RRDGS)  
Winsford, Cheshire, UK

Industry  
Military

### Business Challenge

An engine dynamometer and control system that would ensure steady state load control with minimal overshoot for the (Napier) Deltic 9 diesel engine

### Solution

Taylor Dynamometer's DX37 water brake (hydraulic) engine dynamometer

### Results

A turnkey test facility that exceeded RRDGS's expectations in terms of system performance, load control and durability

### Project Partner

Dynamometer Services Group (DSG)  
Worcester, UK  
sales@dsgroup.uk.com

### Background

The Rolls Royce Distributed Generation Systems (RRDGS), located in Winsford, Cheshire UK, is a leading manufacturer in the design, development and support of small, high-performance power generation and power management, distribution and conversion systems. RRDGS systems are designed for harsh environments or remote locations requiring highly-mobile, high-specification products for military applications.

### The Project

RRDSG required a new test facility to enable validation testing of new spare parts for their (Napier) Deltic 9 diesel engines. RRDGS's original facility had a fire and the majority of their spare parts were lost. So new parts were re-drawn and then tested for performance before fitting to the engines that are in service.

### Implementation

The partnership of Taylor Dynamometer and Dynamometer Services Group (DSG) collaborated on the project. DSG built the test stand while Taylor provided the equipment for the test facility based around Taylor's DX37 water brake (hydraulic) engine dynamometer.

### Business Challenge and Solution

Because of the two-stroke design of the engine and the reliance of engine control without the presence of a governor or limiter, the performance of the dynamometer and control system was paramount to ensure steady state load control with minimal overshoot.

Also, the addition of a Siemens' Flender Speed-Increasing Gearbox was used to bring the shaft speed into the speed-range of the sensibly-sized DX37 engine dynamometer.

### Results

Taylor Dynamometer and DSG delivered a turnkey test facility that exceeded RRDGS's expectations in terms of system performance, load control and durability.

### Evaluation

This was a complicated project due to the nature of the engine and the fact that the majority of staff, with the knowledge base associated with the engine, had either left the company or retired. Completion of the project provided RRDGS with a fully-operational



test bed which subsequently completed the validation of the parts and kept the engines in service.

*Everything you need to succeed*



3602 West Wheelhouse Road, Milwaukee, Wisconsin 53208 U.S.A.  
(414) 755-0040 [www.taylordyno.com](http://www.taylordyno.com)

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