



**Burtonwood**<sup>TM</sup>  
Generator & Switchgear Services

## Load Bank Services



**.....the Power of Experience**

# Load Banking from Burtonwood Generators

Burtonwood Generator & Switchgear Services Ltd provide a comprehensive range of power generation and switchgear services to the MOD, public and private sectors both in the UK and Europe. With over fifty years experience in diesel generator installation and maintenance, they are able to provide the best customer service and technical advice in the industry and this has led to being chosen as a trusted partner to some of the UK's most well known organisations for the business critical service of emergency power supply. With a turnkey approach covering design, build, installation and 24/7 emergency maintenance backed up by the ability to produce highly specialised bespoke units, Burtonwood is the name you can rely on for your standby power generation.

'Load Banking' provides an essential part of preventative maintenance programmes where the reliability and practicality of load banks for power system testing can prevent the risk of costly power failures and maximise efficient production during routine maintenance.

As part of preventative programmes Burtonwood utilises a complete line of resistive and reactive load banks.

## What is a Load Bank?

A Load Bank is intended to accurately mimic the operational or "real" load that a power source will see in actual application. The Load Bank develops an electrical load, applies the load to an electrical power source and converts or dissipates, the resultant power output of the source. However, unlike the "real" load, which is likely to be random in value, dispersed and unpredictable, a Load Bank provides a self-contained and fully controllable load. Where the "real" load is served by the power source and uses the energy output of the source for some productive purpose, the Load Bank serves the power source, using its energy output to test, support or protect the power source.

A Resistive Load Bank, the most common type of Load Bank, impacts upon all aspects of a generating system.

The "load" of a Resistive Load Bank is created by the conversion of electrical energy to heat by power resistors. This heat must be dissipated from the Load Bank, either by air or by water, by forced means or convection.

In a testing system, a resistive load simulates real-life resistive loads, such as lighting and heating loads as well as the resistive or unity power factor component of magnetic (motors, transformers) loads.

A Reactive Load Bank includes inductive (lagging power factor) and/or capacitive (leading power factor) loads.

With a resistive/inductive Load Bank, full power system testing is possible given the impact of reactive currents on generator/voltage regulator performance as well as effects on conductors and switchgear.

Variable power factor loading is possible with a Resistive/Reactive Load Bank by adjusting the ratio of resistive to inductive load.

A Capacitive Load Bank is similar to a reactive load bank in rating and purpose, except leading power factor loads are created. These loads simulate certain electronic or non-linear loads typical of telecommunications,



Typical Load Bank Unit

*Image courtesy of Crestchic Loadbanks*

computer or UPS industries.

### Why use a Load Bank?

Regular Load Bank testing of generators provides an essential maintenance service to prevent diesel engine failure due to wet stacking. Wet stacking is a condition in diesel engines in which all the fuel is not burned and passes on into the exhaust side of the turbocharger and on into the exhaust system. In diesel generators, it is usually because the generator is running at only a small percentage of its capacity. This fuel build up will over cause a reduction of the engines rating and efficiency that will ultimately cause premature failure of the generator. Running the generator on load of 50% - 100% of the genset rating will allow the engine to reach the recommend operating temperature, which will burn off the choke deposits. Burtonwood Generator & Switchgear Services Ltd provides preventive maintenance programmes to a wide variety of industries.

### Where are Load Banks used?

Potential uses for Load Banks include:

- Commissioning newly installed diesel generators
- Performing maintenance testing on equipment
- Testing lower power factor simulation, frequency converters or full electrical system integration

### The Burtonwood range

Our range of load banks varies in size from 2kW to 150MVA, with various power-factor testing capabilities. The Load Bank units are durable and weatherproofed to suit a wide variety of applications. Up to five units can be linked and operated from one control panel where required. Our smaller units are portable and compact enough to fit through a standard door for ease of access. Compatible transformers are also available.

For more information contact one of our sales offices or submit an enquiry via our Contact Form on our web site



Typical Load Bank Unit Application

*Image courtesy of Crestchic Loadbanks*

**We can offer you  
even more ...**



We may not know what power generation services you would like but we do know we have already developed a solution for your application.

We would be pleased to send you more details on any of the products listed below. Simply photocopy this page with your information requests marked and send to the fax number at the foot of this page nearest your location.

Don't forget to put your own details so we can respond.

- Diesel Generators
- Switchgear Services
- Generator Hire
- Generator Maintenance
- Switchgear Maintenance
- Training
- Installation

Contact name

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Company name

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Street

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Town

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Postcode

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Telephone

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BGSS120810



We would like an on site consultation  
Please contact us on the above telephone  
number to arrange a mutually convenient  
appointment.

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Contact name

\_\_\_\_\_  
Position

**Head Office:**

Unit 2  
St Michaels Road  
St Helens  
Merseyside  
WA9 4WZ  
**Tel:** +44 (0) 01744 814444  
**Fax:** +44 (0) 01744 814455  
**Email:** sales@burtonwoodgroup.com

**Frome Office:**

Unit 4  
Southgate Commerce Park  
Frome  
Somerset  
BA11 2RY  
**Tel:** +44 (0) 1373 469679  
**Fax:** +44 (0) 1373 471685

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