DEFEND YOUR DIESEL

A comprehensive Fuel Conditioning Programme to preserve your stored diesel and the reliability of the equipment it powers.

www.ipu.co.uk/fuel
OFGEM REPORTS SUGGEST THAT THE UK’S SPINNING RESERVE (I.E. SPARE CAPACITY IN THE MAINS GRID) COULD DROP TO 2% IN 2015/16. POWER CUTS AND BROWN-OUTS WILL BECOME MORE COMMON, PLACING ADDED PRESSURE ON THE RELIABILITY OF BACK-UP GENERATORS.

WWW.IPU.CO.UK/ELECTRICITY-CAPACITY-ASSESSMENT-2014
Do you have time to worry about the condition of your stored fuel?

We know you don’t.

You just want to know it works. You need 100% confidence that your backup generators will work reliably if mains power fails.

That’s where IPU comes in. Whether you run a bank, data centre or hospital we make sure your backup generators have the clean fuel they need to run on time, every time.

IPU are fuel conditioning experts. With staff comprehensively trained to forecourt standards and over 25 years of experience we can handle every step of a fuel conditioning programme. We can even train your staff to run your own internal programme.

Our mission is to make sure that your time is free to concentrate on the things that keep your organisation running. Leave your fuel to IPU.

www.ipu.co.uk/fuel
Under normal storage conditions diesel fuel can be expected to stay in a usable condition for 12 months or longer at an ambient of 20°C.

The ageing process can be accelerated by:

- The presence of water. Water allows the growth of fungus and bacteria. These produce natural by-products such as organic acids which make the fuel unstable.

- Exposure to dust and dirt which contain trace elements that can destabilise the fuel such as copper and zinc.

- Fuel composition. Some components in diesel fuel naturally age quickly.

BP Advisory “Long Term Storage of Diesel”
www.ipu.co.uk/bp-long-term-storage-of-diesel
It’s a question we’ve heard time and time again. It used to be fine to store diesel for 20 years and it worked perfectly. What is it about modern diesel that needs conditioning?

Put simply, it comes down to environmental awareness.

The world is trying to reduce the environmental impact of burning fossil fuels. This has lead to the introduction of biodiesel blends on the one hand and tighter emissions controls on the other.

Biodiesel blends
The fuel we buy now is a blend of petrochemical diesel and FAME, a biological element that reduces the damage caused by burning the fuel. Diesel has contained 7% FAME since 2011; that proportion will steadily rise.

Biodiesel is a great idea for the environment but it’s a problem for anyone who stores fuel. It contains water when it’s manufactured and it attracts more water while it’s stored. Water is the enemy of clean fuel:

- water is a contaminant in its own right
- water promotes microbial growth, otherwise known as the ‘diesel bug’
- water accelerates contamination from solids like rust

Emissions standards
Europe has been tightening emissions controls on diesel engines since introducing the Euro 1 standard in 1992. New engines are now subject to the Euro 6 standard which allows fewer harmful emissions than ever before.

Modern engines need clean fuel to meet these standards. Dirty fuel clogs or damages sensitive components such as injectors and pumps. Old fuel – whether petrochemical or biodiesel – contains colloid carbon and other contaminants likely to choke or damage modern engines.

IPU’s Fuel Conditioning Programme eradicates all forms of fuel contamination and makes sure your critical equipment runs reliably.

For more background on the types, causes and remedies for fuel contamination, please visit www.ipu.co.uk/fuel-contamination
FUEL CONDITIONING - IT’S ABOUT PROGRAMMES NOT PRODUCTS

IPU’s four-part Fuel Conditioning Programmes present the simplest and most economical route to clean, dry, reliable fuel.
A quick search on the web reveals lots of companies who will test your stored fuel, or clean it or sell you a polishing unit.

But if you’re looking for a supplier who will manage everything as part of an all-encompassing, professional fuel conditioning programme there’s only one choice: IPU.

We know that your goal is simple: reliable power. You want somebody else to handle fuel conditioning so your time is free for your real job. That somebody is IPU.

IPU is the only business partner you need for a full Fuel Conditioning Programme:

**Testing**
IPU’s regular tests alert you to problems introduced by contaminated deliveries or tank breaches.

**Cleaning**
IPU’s ClearTank cleaning service is a one-time process that prepares your fuel for long-term conditioning.

**Polishing**
IPU’s Diesel Defence on-tank and mobile polishing units keep fuel clean, dry and ready to power your critical applications.

**Stabilising**
IPU’s ADV Regulator neutralises the tiny molecules of water and contaminants that are too small for polishing units.

With a single supplier to deal with, IPU assumes total responsibility for all aspects of your fuel conditioning, simplifies your back-office administration and gives your operations staff a single point of contact.

That’s why IPU is **Number 1 in Fuel Conditioning.**
Defend Your Diesel

FUEL TESTING -
YOU CAN’T FIX WHAT YOU DON’T SEE

Fuel contamination is the invisible enemy. The over-whelming majority of tanks have a problem – but few of their owners are aware of it.
Most of IPU’s new customers have no idea they have a fuel contamination problem.

It comes as a surprise to many that diesel even needs conditioning. 64% of our customers think their fuel is fine - the first they know about a problem could be when their generators splutter and die.

Our data shows that over 95% of tanks are contaminated.

The safety and continuity of critical services is in a precarious position because backup power systems are threatened by dirty fuel. Whether you manage a data centre, hospital or bank, the first you might know about fuel problems could be when your backup power fails and vital activities collapse.

IPU offers three fuel testing options that provide the vigilance you need:

**Fuel Conditioning Programme**
Fuel Conditioning Programme customers receive regular tests as part of their package.

**DieselCheck Fuel Testing Service**
Regular visits by IPU’s fuel experts test your fuel on-site and deliver results in 2 business hours. A clearly-illustrated analysis follows a week later.

**Self-Testing**
IPU can train your conditioning staff to conduct your own tests according to your own schedule. We supply two testing systems:

- The IPU Fuel Testing Kit provides comprehensive tests for all types of diesel contamination: solid, water and microbial.
- DieselCheck ‘pregnancy test’ cards have lower start-up costs – there’s no kit to buy – and provide a simple and effective overview of your fuel’s condition.

For more details on IPU’s fuel testing options, please visit www.ipu.co.uk/dieselcheck
CLEARTANK FUEL AND TANK CLEANING

BECAUSE YOU DON’T POLISH A DIRTY CAR

When IPU cleaned the tank feeding a major NHS hospital, we removed 330l of water, 6kg of solid contaminants and identified 4 other critical risks.
A failed fuel test isn’t the end of the world.

Nor is it a meaningless memo you can ignore. It’s an alarm telling you that urgent action is needed to solve a problem that could cripple critical services if a power failure strikes your data centre, hospital or bank. Failed fuel test reports tell you that your backup generators do not have the fuel they need to support your infrastructure.

IPU’s ClearTank tank cleaning service is the solution to your problem. ClearTank removes all forms of contamination from your stored fuel rendering it clean, dry and ready to power your generators reliably.

It addresses:
- water contamination, removing water to below 200ppm as defined by BS EN590.
- particulate contamination, removing solids such as soot, rust and colloid carbon so your fuel meets the 18/16/13 cleanliness standard set by ISO 4406.
- microbial contamination, removing the films and bacteria collectively known as the diesel bug.

Safe, convenient and discrete
IPU look beyond the mechanical process of cleaning fuel and tanks; we understand the commercial implications of dirty fuel and have adapted ClearTank to address them.

- ClearTank avoids health and safety problems by not requiring man-entry into the toxic interior of your tanks. All cleaning is done outside the tank using IPU’s unique cleansing additive, ADV Energiser.
- ClearTank cleaning does not always require you to take your generators offline; there’s no need to disrupt day-to-day operations.

Clean before you polish
IPU’s Fuel Conditioning Programmes include both cleaning and polishing phases. Both appear to do the same thing: remove contaminants from stored diesel. It’s worth explaining the difference.

Diesel Defence fuel polishing units maintain fuel that has already been cleaned by our ClearTank service. ClearTank cleans fuel, Diesel Defence maintains it. Polishing fuel that hasn’t been cleaned first is as counter-productive as polishing a car that hasn’t been washed.

For more details on IPU’s ClearTank service, please visit www.ipu.co.uk/cleartank
IPU’s ClearTank service is the perfect way to clean dirty fuel but it won’t stay clean for long. Only Diesel Defence keeps it ready for use.
Diesel Defence provides long-term protection for stored diesel.

Your stored fuel is under constant attack. Grit and dirt enter from the atmosphere. Rust falls off the inside of the tank. Water enters via air vents and new deliveries. Bacteria grow as the water content rises. In short, biodiesel degrades unless it’s maintained.

IPU’s Diesel Defence units preserve the quality of your stored fuel:

• Single and multi-stage filtration removes solid and microbial contamination to 6 microns or less
• Water is extracted using IPU’s advanced custom filters
• Fuel is circulated in the tank to eradicate the pockets of contamination that grow in stagnant biodiesel
• The process is governed through a customised touch-screen panel that requires no special expertise
• Alerts can be passed directly to your Building Management System (BMS)
• Fuel is maintained to surpass ISO 4406’s 18/16/13 standard of cleanliness and EN590’s 200ppm level of water content

We recommend that large bulk storage tanks are serviced by Diesel Defence on-tank systems. Smaller day tanks can share a single mobile Diesel Defence buggy.

IPU specialise in custom units to suit specific installations.

For more details on IPU’s Diesel Defence polishers, please visit
www.ipu.co.uk/diesel-defence
FUEL STABILISATION - THE FINISHING TOUCH

IPU additives are the vitamin boost that keep your stored fuel bug-free and give your gensets extra performance.
Stored diesel is under constant threat.

As time passes, aged diesel becomes contaminated with rust, colloid carbon and other solid particulates. Biodiesel is further threatened by water contamination. As we move from a 7% bio-blend (B7) to 15% (B15), the threat will grow.

While Diesel Defence polishing units remove bacteria that have grown to a significant size, IPU’s fuel additives work directly to kill tiny bacteria and neutralise the ingredients they need to grow.

**ADV Energiser**
ADV Energiser is the cleansing agent used during the ClearTank fuel cleaning process. If your tanks suffer sudden contamination from a tank breach or bad delivery, ADV Energise will be used to clean it.

**ADV Regulator**
ADV Regulator isolates the water present in biodiesel. By wrapping itself around water at a molecular level ADV Regulator starves bacteria and microbes of the water they need to grow. Dosing your fuel with ADV Regulator reduces the cost of filter replacements by slowing microbial growth.

**ADV Predator**
Contaminated fuel deliveries regularly cause a spike in microbial activity. ADV Predator kills the activity before it blocks a polishing unit’s filters and without needing a ClearTank call-out.

**Vent traps**
The most common source of long-term water contamination is surprising: air.

Night-to-day temperature changes cause tanks to slowly inhale and exhale, bringing moist air into contact with your fuel. Because biodiesel is hygroscopic (it attracts water), this moisture is absorbed into the fuel.

Vent traps remove the moisture from incoming air during the inhale cycle. During the exhale cycle dry air passes through the vent trap, purging the moisture from the filter.

For more details on IPU’s stabilisation products, please visit www.ipu.co.uk/fuel-stabilisation