



Independent Connection Provider Services

Securing grid capacity for complex
and high-demand developments

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The Role of ICP Services in a Changing Energy Landscape

Power Demand Is Changing

Electricity has become the deciding factor in whether new developments advance, stall or evolve. Demand for electricity is rising as organisations electrify fleets, expand operations and integrate renewable energy. As connection queues lengthen across the UK, securing capacity early is now a strategic necessity.

Why ICP Services Matter

Independent Connection Providers play a crucial part in unlocking progress. By delivering the contestable elements of a grid connection, ICPs give developers more control over timescales, budgets and technical outcomes. Their involvement helps projects move from design to energisation with less uncertainty and a clearer understanding of risk.

Accreditation That Builds Confidence

TSG Power's ICP services are fully accredited under the National Electricity Registration Scheme (NERS). This accreditation certifies competency

in designing, managing and constructing electrical infrastructure across low-voltage (LV) and high-voltage (HV) ranges. It also ensures that each installation meets the standards required by the Distribution Network Operators (DNOs) and Independent Distribution Network Operators (IDNOs).

As the energy system becomes increasingly decentralised, ICPs support a wide range of schemes including new commercial buildings, logistics depots, electric vehicle (EV) charging projects and renewable installations. Every connection is designed to support operational needs, enable future growth and fit seamlessly within the long-term energy site plans. Grid connections are no longer a simple utility requirement. They are a foundation for long-term performance and resilience. Through its specialist ICP capability, TSG Power helps businesses navigate this complex landscape, securing the capacity they need to grow while preparing for an electrified future.



Integrated Grid Connections for Growing Energy Demand

End-to-end ICP services designed to deliver reliable grid connections

Delivered by TSG Power, our end-to-end ICP services enable businesses to secure the capacity they need to grow. Our teams design, install and commission safe, compliant and future-ready grid connections across the UK, supported by full in-house capability spanning civil works, cable installation, substations, testing and energisation.

As a NERS-accredited ICP, TSG Power provides developers with control, clarity and confidence throughout the connection process. Designers engage from the earliest stages to ensure conformity, mitigate risk and establish a robust technical foundation. Project managers oversee each milestone to keep programmes on track. This integrated structure ensures that every decision, from design to energisation, aligns with the site's long-term electrical and operational requirements.

TSG Power's expertise spans HV systems, EV charging infrastructure, solar photovoltaic (PV) and battery storage (BESS), enabling us to build scalable networks that align with long-term operational demands.

Why Choose TSG Power?

- One company delivering a full turnkey service with a clear ICP focus
- Proven track record of securing DNO approvals with fast, reliable turnaround
- Nationwide coverage supported by a complete design, delivery and O&M service
- Full-circle expertise across Design, ICP and EPC project delivery
- Experienced in managing large-scale ICP infrastructure projects for major blue-chip clients
- Product-agnostic approach with strong relationships across leading manufacturers and partners
- International reach through the wider TSG Group

TSG Power brings together the strength of a major provider and the agility of specialist teams. This helps reduce risk, accelerate delivery and create resilient connections from the outset. Clients benefit from a partner with both regulatory expertise and the capacity to deliver complex projects.



Understanding Contestable and Non-Contestable Works

How Grid Connections Are Divided

Any new electricity connection involves two types of activities. Non-contestable works are the responsibility of the local DNO. These include final connections, certain switching operations and reinforcement that affect the integrity of the whole network. They are safety-critical tasks carried out solely by the DNO.

What ICPs Can Deliver

Contestable works, by contrast, can be completed by an accredited ICP. These tasks often make up a substantial part of a new connection and can include design, civil engineering, cable installation, substations, transformers and associated electrical plant. Allowing accredited specialists to complete these elements introduces competition, improves choice and drives better value for customers.

Planning with Clear Boundaries

NERS accreditation confirms the scope in which an ICP is authorised to operate. This scope determines whether they can work on LV, HV or both, as well as the extent of design, cable jointing and commissioning they are approved to carry out. TSG Power's accreditations cover a broad range of activities, giving clients confidence that complex projects are delivered safely and correctly.

Understanding these boundaries helps developers plan with confidence. Knowing which activities can be completed independently enables earlier starts, shorter lead times and more predictable delivery. A well-managed contestable programme plays a vital part in keeping programmes on track. With TSG Power acting as the appointed ICP, clients gain greater visibility of each stage and assurance that all works progress in line with regulatory expectations. This clarity supports better budgeting, stronger governance and efficient project planning.

A man with dark hair and glasses, wearing a brown turtleneck sweater, is seated at a desk in an office. He is looking at a computer monitor and has his hands on the keyboard. The desk is cluttered with various office supplies, including pens, a stapler, and a water bottle. In the background, there are more computer monitors and office equipment. The lighting is bright, suggesting a window is nearby.

How TSG Designs and Delivers Grid Connections

Intelligent Design from Day One

Every successful connection begins with a detailed design. TSG Power's engineering team engages from the outset, carrying out site assessments, load calculations and network modelling to ensure that the new supply is both technically robust and commercially aligned with long-term requirements. This early involvement helps highlight challenges, reduce delays and support clear decision-making.

Infrastructure Delivery

Once the design is approved, TSG Power manages the delivery programme in-house. Skilled civil engineering teams complete trenching, ducting and reinstatement. Cable installation is undertaken by specialist crews experienced in both LV and HV systems. Substations, switchgear and transformers are installed to exacting standards, ensuring long-term reliability and compliance with all relevant regulations.

Commissioning with Confidence

Project managers play an essential role. They coordinate with DNOs, IDNOs, local authorities and other stakeholders, keeping the programme aligned with expectations. Their oversight ensures that each stage meets project deadlines, follows the correct process and adheres to industry standards.

Before energisation, TSG Power completes thorough testing and commissioning to confirm that the installation is safe, compliant and performing as designed. All documentation is prepared and submitted as required, including as-built drawings, test certificates and safety files. This integrated way of working streamlines the connection process and keeps everything moving in the right direction. Clients benefit from a single point of accountability, predictable delivery and a team that understands the detailed technical and regulatory requirements at every stage.





Working with DNOs, IDNOs and the Wider Network

Coordinating with Network Operators

A grid connection touches many organisations. Coordinating these relationships effectively is essential to avoid delays, missed deadlines or redesigns. TSG Power manages all liaison with the DNO to secure approvals, agree designs, schedule inspections and confirm energisation dates. This ensures a smooth journey through the regulatory process.

Choosing Between DNO and IDNO

In many cases, clients may choose to work with an IDNO rather than the local DNO. IDNOs are licensed to adopt new electrical assets and operate networks, often providing an asset value payment upon energisation, which can significantly improve the financial case for a connection. TSG Power supports clients through this process, coordinating the successful adoption of the new asset with the IDNO.

Planning for Flexible Connections

Flexible connections are another route where guidance is vital. Some regions face heavy pressure on capacity, and flexible arrangements allow power to be drawn in line with operational cycles rather than in a fixed band. This approach can make projects viable where traditional connections are unavailable or subject to long delays. TSG Power can help clients assess options by modelling how flexible connections interact with EV charging, solar generation or changing demand profiles.

Grid capacity constraints are now common in many areas of the UK. Engaging early is therefore crucial. TSG Power collaborates with clients to secure capacity ahead of major projects, protecting timelines and preventing supply shortages when construction begins. Through close coordination with network operators, TSG Power ensures that each connection proceeds smoothly through approval and energisation, reducing risks and increasing certainty for all stakeholders.



Integrated Energy Solutions Beyond the Connection

More Than a Connection

A grid connection is often the starting point for wider energy infrastructure. Modern sites increasingly require integrated solutions that combine generation, storage, electric vehicle charging and advanced monitoring. TSG Power's ICP services are closely aligned with its capabilities in HV systems, solar PV, battery storage and EV charging, allowing clients to develop a coherent, future-ready energy strategy.

Future-Ready Design and Delivery

Connections designed by TSG Power consider more than immediate demand. They incorporate growth potential, planned electrification and opportunities for onsite generation. This prevents costly rework as organisations grow, move to electric fleets or deploy BESS to manage tariffs and strengthen resilience.

Optimising Performance

For energy-intensive operations such as industrial facilities, TSG Power's integrated approach supports a smoother transition to new technologies. Solar PV can offset peak daytime demand, while battery storage can shift load or provide backup during outages. When combined with smart metering and energy management systems, sites gain greater control over consumption, cost and performance.

TSG Power's engineering teams ensure that HV and LV installations align with required safety standards and operational expectations. Their focus on long-term performance ensures that assets remain reliable, compliant and easy to maintain throughout their lifespan. By delivering ICP services alongside wider energy solutions, TSG Power helps businesses move from connection to full operational capability with confidence. This holistic approach supports decarbonisation, financial resilience and modernisation through a single, coordinated programme.



Early Planning Protects Programme Certainty

Why Early Engagement Matters

Securing power has become one of the most significant risks for modern developments. Capacity in many areas of the UK is limited, and delays caused by late engagement can undermine viability, increase costs or halt schemes entirely. Planning early ensures that projects progress smoothly and protect long-term value.

Designing for Today and Tomorrow

TSG Power encourages early involvement at the feasibility stage. This allows the team to identify constraints, explore alternative approaches and advise on strategies that support the wider energy plan. Options may include applying for a new connection rather than reinforcing an existing one, exploring time-profiled arrangements or sizing the connection with future expansion in mind.

Reducing Technical and Commercial Risk

Technical uncertainty can be reduced through early design. Through network modelling, TSG Power help clients understand their demand requirements. Understanding fault levels, capacity

limits and the availability of network reinforcement help shape robust project plans. This avoids late-stage redesigns and supports accurate budgeting from the outset. By planning early, developers protect timelines, reduce commercial exposure and create energy infrastructure that supports long-term success. With TSG Power guiding the process, clients gain a structured, informed approach to securing the power needed for the future.





Solar and Battery Energy Storage Systems (BESS)

Powering Onsite Generation with Strong Grid Foundations

Solar PV and BESS are now key components of commercial energy strategies. They reduce operational costs, support carbon goals and improve resilience. Both technologies depend on a safe and well-designed electrical connection, and this is where ICP services become essential. As a NERS-accredited ICP, TSG Power provides the grid infrastructure that enables solar and BESS systems to operate smoothly and deliver long-term value.

Supporting Renewable Integration

Solar and BESS systems change how a site interacts with the grid. Solar can increase exported power at certain times while BESS balances or shifts demand. TSG Power designs and delivers the ICP infrastructure needed to support this, including substations, switchgear, private wire networks and HV or LV upgrades. Detailed assessments confirm that the connection can manage import and export safely and in line with regulations. This approach keeps projects on schedule and reduces the likelihood of future redesign.

Planning for Growth and Flexibility

Many renewable projects sit alongside broader site changes such as fleet electrification or building expansion. TSG Power considers these requirements from the start, ensuring that the connection and associated infrastructure can support future demand. Battery storage enhances this flexibility by providing opportunities for peak-shaving, tariff management or resilience during outages. When designed correctly, these capabilities help businesses gain greater control over their energy strategy.

One Coordinated Delivery Partner

TSG Power's advantage lies in its ability to deliver solar PV, BESS, HV works and ICP services as a coordinated programme. This reduces interfaces, improves accountability and creates a consistent technical standard across the whole installation. Clients benefit from a single partner who understands the connection, the generation assets and the long-term operational site requirements.



Case Study for Global Online Retailer and Distributor High-Voltage Network Upgrade and Capacity Increase

Client Full Name:

Global Online Retailer and Distributor (anonymous)

Location: Carlisle area

Services: Full Independent Connection Provider (ICP) delivery, including contestable works, 11 kilovolt (kV) dual-circuit installation, new substation, testing and commissioning.

Supplier: TSG UK Solutions Ltd – Power Infrastructure

The Project

A leading global online retailer appointed TSG Power to increase electrical capacity at one of its largest distribution facilities in the Northwest. With fleet electrification planned across the operator's UK network, the existing supply required a significant upgrade to support rapid charging and future expansion.

TSG Power was engaged as the Principal Contractor and Principal Designer under the Construction (Design and Management) Regulations 2015 (CDM 2015), responsible for the safe planning, coordination and delivery of all works. The £2.5 million contract

covered the entire contestable scope, including a 7-kilometre (km) off-site 11kV dual-circuit main, a new Distribution Network Operator (DNO) intake substation, customer-owned 11kV switch room and all related excavation, reinstatement and traffic management.

The project required meticulous planning to maintain the customer's operations throughout. TSG Power coordinated all stages in line with the client's strict safety and operational requirements, ensuring that the facility remained fully functional during construction.

The Solution

TSG Power developed a detailed programme covering every stage of the electrical upgrade. All works were undertaken by TSG's in-house teams, who delivered:

- Construction of a 7km off-site 11kV dual circuit route
- Full excavation and reinstatement along the route
- All cable installation and jointing terminations



- Comprehensive traffic management planning and coordination
- Delivery and installation of all materials and equipment
- Substation plinth installations
- DNO owned HV Intake Substation
- Installation of a new privately owned 11kV 630A Ringmaster extensible board
- Full testing, commissioning and energisation
- Production of cable and asset records in line with Electrical Safety, Quality and Continuity Regulations 2002 (ESQCR) requirements

Challenges included navigating a long off-site route with multiple obstructions, existing operator networks, culverts and New Roads and Street Works Act (S58) constraints. The team also worked closely with the customer and the local Network Operators to review existing records, validate data and ensure safe excavation without disruption.

With careful sequencing, regular stakeholder communication and strong on-site coordination, every challenge was resolved smoothly. Operations at the facility were maintained throughout, with safety upheld at all times.

The Result

TSG Power delivered the complete electrical upgrade as specified, providing the customer with a significantly enhanced power supply capable of supporting current operations and the upcoming electrification of its fleet.



The new dual circuit, substation and extensible board have increased network resilience and created essential capacity for future charging infrastructure. All works were completed in line with CDM 2015, with comprehensive documentation and ESQCR asset records issued following commissioning.

The customer expressed strong confidence in TSG Power's delivery approach, praising the quality of the work, the handling of site constraints and the clarity of communication. The project has strengthened TSG's partnership with one of the world's most influential logistics operators, positioning the company as a trusted provider for future high-voltage and grid-readiness projects across the customer's estate.



TSG UK Solutions

TSG delivers integrated systems that support the design, delivery and operation of modern energy and transport infrastructure. Our expertise spans EV charging, fleet depots, multi-energy refuelling, solar PV, battery storage, HV connections and payment and control technologies. We help businesses operate efficiently and securely across an increasingly complex landscape.

Get in touch



Move with TSG
Energize your future

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