

Dron & Dickson - Sizewell C-

PowerPoint Overview

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Project overview and aim .

The project is based around one of the UK's largest upcoming energy infrastructure developments: Sizewell C Nuclear Power Station. I have taken on the role of managing director of a small-to-medium-sized (SME) electrical wholesale and engineering services company. My challenge was to decide how the business should position itself to win work connected to the Sizewell C project. This was a real-world business and engineering project that combines energy, strategy, research and problem solving.

The aim of the project was to develop a realistic business strategy showing how an SME specialising in electrical wholesale and engineering services could secure work linked to the Sizewell C Nuclear Power Station project.

Overview of Dron & Dickson .



- Dron and Dickson is the UK's only specialist electrical wholesale and engineering services company dedicated to hazardous and industrial environments.
- Founded in 1927, the company has evolved from serving the mining industry to becoming a leading supplier and engineering partner for the oil & gas, offshore wind, renewables, marine, pharmaceutical, utilities, petrochemical, defence and transportation sectors.
- Headquartered in Stirling, with seven UK branches, the company provides integrated services including electrical equipment supply, engineering, installation, inspection, maintenance, commissioning, rope access, fire & gas systems, lighting solutions, and control & automation.
- The acquisition of Cable Solutions Worldwide expanded its expertise in bespoke cable design and project management, helping increase annual revenue to over £50 million.
- Dron and Dickson is ISO 9001, ISO 14001 and ISO 45001 accredited, recognised for its technical expertise, strong safety culture, and commitment to delivering high-quality, compliant solutions.
- The company supports 15+ long-term contracts across multiple industries and is known for its highly trained workforce, technical knowledge, and customer-focused approach.

Sizewell C overview.

Sizewell C will see the creation of a 3.2-gigawatt power station generating low-carbon electricity for at least 60 years.

Sizewell C is being built alongside Sizewell A & B, taking advantage of existing infrastructure and continuing a proud legacy of low-carbon energy generation on the Suffolk coast. It will replicate the design and operation of Hinkley point C in somerset-maximising efficiencies, reducing costs, and building on proven technology.



Sizewell C is designed to:

- Generate low-carbon electricity for 6 million homes.
- Help improve the UK's energy security by reducing reliance on imported fossil fuels.
- Support for the UK's goal of reaching net zero greenhouse gas emissions.
- Operate for an expected 60 years once completed.
- Create thousands of jobs during construction and operation, along with apprenticeships and opportunities for UK businesses in the supply chain.

Main phases of Sizewell C.

- **Site preparation and enabling works (2024 onwards):**

Following the final investment decision, early works began to prepare the sensitive local environment. This includes creating temporary sea defences, improving local roads, building the green rail route to limit public freight traffic, and erecting the 2,400-bed workforce accommodation campus.

- **Main civil construction:**

This phase spans roughly 9 to 12 years and features the heavy engineering work. It involves excavating foundations, pouring deep concrete and constructing the reactor buildings, conventional islands and marine cooling systems.

- **Mechanical, electrical and operational commissioning:**

Once the main structures are complete, heavy components (such as the reactor pressure vessels and turbines) are installed. This phase focuses on fitting the control systems and rigorously testing all safety and operational mechanisms before fuel is loaded.

- **Decommissioning:**

After its 60-year lifespan, the plant will enter a de-fueling and dismantling process. This site is planned to be cleared and returned to a “near green field” state roughly 20 years after operations permanently stop.

- **Commercial operation:**

Once online, the twin EPR (European pressurized reactor) reactors will generate enough electricity to meet up to 7% of the UK's demand. During this phase, routine maintenance outages occur, and spent fuel is managed in an onsite interim store.

What electrical and engineering supply chains exist?

Sizewell C's supply chain focuses on established tier 1 frameworks in electrical and mechanical engineering. Opportunities span specialist component manufacturing, site operations, and structural work.

-electrical installation:

Installing power distribution systems, switchgear, transformers, cable containment, lighting, emergency power supplies, and temporary site electrical systems.

- Cable supply and installation:

Manufacturing, supplying, and installing high-voltage, medium voltage and low voltage cables, including cable testing and commissioning.

- Instrumentation and control:

Installing and maintaining sensors, control panels, monitoring systems, automation equipment and safety critical electrical control systems.

- Testing and commissioning:

Electrical inspection, testing, fault finding, certification and ensuring systems meet strict nuclear safety standards.

- Maintenance services:

Preventative and reactive maintenance of electrical equipment throughout construction and later during the station's operational life.

- Building services:

Electrical work for offices, welfare facilities, accommodation campuses, workshops, warehouses and other support buildings.

- Renewable and temporary power solutions:

Providing energy efficient lighting, generators, battery storage, EV charging points, and temporary power systems for the construction site.

- Fire and security systems:

Installation and maintenance of CCTV, access control, fire alarms, communication systems and emergency lighting.

- Engineering design:

Producing electrical designs, drawings, calculations, and building information modelling (BIM) support for contractors and tier 1 suppliers.

How do SMEs access major energy infrastructure projects?

Funding and innovation support:

- Innovation and competitions: government agencies and bodies launch targeted calls for feasibility and industrial research grants.
- Energy catapults: programs via organizations can help match tech innovations directly with regional network operators and local authorities.

Supply chain integration:

- Tier 1 subcontracting: major contracts are normally awarded to large prime developers, but smaller firms win specialist subcontracts for technical components, local engineering, or environmental monitoring.
- Procurement portals: public and private utilities post sub-contracting packages on national tender databases and developer e-procurement platforms.
- Consortia and joint ventures: smaller businesses partner together or align with larger primes to meet minimum scale and financial qualifications thresholds.

Small and medium sized enterprises access major energy infrastructure projects by targeting tier 2 and tier 3 sub-contracts through prime contractors, joining regional energy clusters, and leveraging public procurement portals.

Essential procurement portals:

To view and bid on live work packages, engineering SMEs must create profiles on the project's mandatory digital procurement channels:

- Compete for: the primary portal where Sizewell C publishes official tender releases, contract awardee information and upcoming sub-contracting packages.
- Sizewell C supply chain portal: managed in partnership with the Suffolk chamber of commerce, this portal serves as the main registration database for regional suppliers. Major tier 1 contractors use this list to source local engineering, logistics, and technical talent.
 - Jaggaer: the internal e-procurement platform used by the Sizewell C client organization for direct commercial tendering.

SMEs rarely contract directly with Sizewell C. Instead, engineering firms must target the major consortia managing the primary work packages:

- Civil work alliance (CWA).
 - MEH alliance.
- Major tier-1 contractors.

FOR SIZEWELL C:
SMEs in the energy and engineering sector access the 3.2-gigawatt Sizewell C mega project by registering on designated procurement portals aligning with primary construction alliances and engaging with regional businesses readiness programs. (Because Sizewell C replicates the engineering design and supply chain of Hinkley point C, procurement follows a heavily structured tiered framework designed to route contracts down to smaller technical firms).

What procurement routes, frameworks and entry points are available?

Direct procurement through Sizewell C (primary entry point):

- The main supplier entry point is the JAGGEAR supplier portal, where Sizewell C advertised selected opportunities, future work packages, and awarded contracts.
The first step is to:
 - Register your business on the supplier portal.
 - Select relevant categories.
 - Monitor upcoming work packages.
 - Attend supplier engagement events and webinars.
(This is the principal route for organizations seeking direct opportunities).

Regional supply chain program:

For businesses in Suffolk and neighboring counties, Sizewell C funds a regional engagement program delivered through the Suffolk chamber team.

This provides:

- Meet-the-buyer events. -capability reviews.
 - Tender readiness support. -networking with tier one contractors.
 - Pipeline visibility. -supplier workshops.
- This is particularly valuable for SMEs entering the nuclear sector.

Tier 1 contractor route (often the biggest opportunity for SMEs):

- Most of the project is delivered by major tier 1 contractors, who then procure thousands of subcontractors.

Typical tier one packages include:

- Civil engineering.
- Mechanical and electrical.
 - HVAC.
- Steel fabrication.
 - Concrete.
 - Rail.
- Marine works.
 - Logistics.
- Professional services.
 - IT.
 - Recruitment.
- Facilities management.
 - Security.
- Temporary works.
- Equipment supply.

Rather than waiting for a direct Sizewell C tender, many SMEs secure work by becoming approved suppliers to these tier 1 contractors. The project is intentionally replicating the supply chain model developed for Hinkley point C.

What procurement routes, frameworks and entry points are available?

Procurement frameworks:

Unlike many public sector projects, Sizewell C does not primarily buy through crown commercial service (CCS) frameworks.

Instead, procurement is largely through:

- Strategic framework agreements.
- Long-term engineering agreements.
- Equipment framework contracts.
 - Nuclear services agreements.
 - Inspection frameworks.
- Project management frameworks.

These are bespoke commercial arrangements rather than standard UK public procurement frameworks.

Professional services entry:

There are ongoing opportunities for:

- Project controls
 - Planning.
- Quantity surveying.

Alliance and package procurement:

Large work packages are often produced through alliances or integrated delivery partners.

Examples include:

- Civil works alliances.
 - Marine works.
- Infrastructure packages.
- Engineering design packages.
- Delivery integration partners.
- Contract management partners.
- Program delivery partners.

These organizations subsequently subcontract significant portions of the work.

Manufacturing and supplying opportunities:

Manufacturers can register for opportunities relating to:

- Electrical equipment.
 - Valves.
 - Switchgear.
- HVAC equipment.

Sizewell C states that around 70% of construction value is intended to go to the UK suppliers, with substantial spending already committed to UK businesses.

What safety, quality and regulatory standards apply to nuclear projects?

Nuclear projects operate under some of the most stringent safety and quality requirements of any industry. Suppliers are expected to demonstrate robust management systems, regulatory compliance and a strong nuclear safety culture.

Nuclear safety culture is a fundamental expectation, emphasizing procedural compliance, questioning attitudes, continuous learning, transparent reporting and leadership commitment to safety.

Requirements are applied using a graded approach, with the level of assurance increasing according to the safety significance of the products or services supplied. Businesses providing safety-critical equipment face substantially more rigorous controls than suppliers of conventional goods or services.

For organizations seeking opportunities on projects such as Sizewell C, implementing recognized management system standards, strengthening quality assurance processes, and demonstrating alignment with nuclear safety principles are key steps towards becoming a competitive supplier.

Key standards include:

- ISO9001- quality management.
- ISO19443- nuclear specific quality management, building on ISO9001 with enhanced requirements for safety, traceability and supplier control.
 - ISO45001- occupational health and safety management.
 - ISO14001- Environmental Management.
 - ISO/IEC27001- information security management.
 - Cyber essentials/cyber essentials plus- frequently required for organizations handling digital systems or sensitive information.

Regulatory oversight in the UK is primarily provided by the office for nuclear regulation (ONR), supported by environmental and health and safety regulators where applicable, suppliers are generally required to comply with client assurance processes designed to meet these regulatory expectations.

Core quality assurance requirements include:

- Comprehensive document control and record retention.
 - Product and material traceability.
 - Inspection and testing procedures.
 - Configuration and change management.
 - Supplier qualification and audit processes.
- Management of non-conformances and corrective actions.

How can a company position itself for long term growth and engagement?

Use customer feedback:

Regularly collect and act on customer opinions to improve products and services, increasing satisfaction and loyalty.

Invest in the employees:

Train, motivate, and retain skilled staff, as engaged employees are more productive and provide better customer service.

Invest in innovation:

Developing new products, services, or technologies to meet changing customer needs and stay ahead of competitors.

Use customer feedback:

Regularly collect and act on customer opinions to improve products and services, increasing satisfaction and loyalty.

A company can position itself for long-term growth and engagement by focusing on sustainable strategies rather than short-term profits, for example:

Building strong customer relationships:

Provide excellent customer service, personalize experiences, and reward loyal customers to encourage repeat business.

Expand into new markets:

Introduce products to new geographical areas or target different customer groups to increase sales opportunities.

Use digital marketing and social media:

Engage with customers online, gather feedback, and build a community around the brand.

Develop a strong brand image:

Create a positive reputation through quality, reliability and consistent marketing so customers trust the business.

How can Dron & Dickson position themselves for long term growth and engagement?

However, for Dron and Dickson in relation to their potential to secure a contract with Sizewell C; the company can position itself for long-term growth and engagement by aligning its services with the long lifespan and strict requirements of the nuclear industry. They could do this by investing further in specialist products such as hazardous area lighting and electrical equipment that meet nuclear safety standards. They could also train employees in line with nuclear regulation standards, build strong relationships with contractors and local suppliers, and provide ongoing maintenance and technical support throughout the construction and operational life of the power station. By investing in innovation, sustainable technologies such as energy efficient lighting, and expanding its presence in the east of England, Dron & Dickson can strengthen its reputation and secure a contract with Sizewell C and other major infrastructure projects.

Where Dron & Dickson fit in with Sizewell C. Timeline, scope and scale.

Timeline:

The timeline is the schedule for the project from planning to completion.

- planning and consultation began in the early 2010's.
- development consent was granted in 2022.
- formal construction preparations started in 2024.
- the UK government approved the project and made its final investment decision in 2025.
- construction is expected to continue into the mid-to-late 2030s, with electricity generation planned to begin during that period.

Scope:

The scope describes what the projects includes.

Sizewell C will:

- build two EPR nuclear reactors.
- generate 3.2 GW of low-carbon electricity.
- produce enough electricity to power around 6 million homes.
- include supporting infrastructure such as roads, worker accommodation, cooling systems, environmental mitigation and grid connections.
- create apprenticeships, local jobs, and long-term economic benefits.

Scale:

The scale refers to how large and complex the project is.

- one of the UK's largest infrastructure projects.
- expected to cost around £38 billion.
- around 10,000 jobs will be created at peak construction.
- around 70,000 jobs will be supported across the UK supply chains.
- once operational, it will provide approximately 7% of the UK's electricity demand, making it a nationally significant energy project.

Where Dron & Dickson fit in with Sizewell C.

Electrical wholesale:

- supply of cables and wiring.
- lighting systems (including hazardous area and emergency lighting).
- electrical switchgear and distribution boards.
- cable management systems (trays, trunking, conduits).
- power tools and electrical accessories.
- personal protective equipment (PPE) and site safety products.
- industrial sockets, plugs, and connectors.
- test and inspection equipment.

Electrical engineering:

- electrical design and system planning.
- installation of power distribution systems.
- testing and commissioning of electrical equipment.
- inspection and maintenance of electrical systems.
- high voltage and low voltage electrical work.
- instrumentation and control systems.
- fire detection, security, and communication systems.
- fault finding and repairs.
- energy management and efficiency improvements.
- compliance with nuclear safety regulations and electrical standards.

Where Dron & Dickson fit in with Sizewell C.
Procurement and supply chain entry routes for SMEs.

SMEs can access the £4.4billion Sizewell C supply chain through the primary digital portals and regional business support networks. However, procurement entry points depend entirely on business locations and tier placements. Digital entry points: Sizewell C utilizes specific online platforms to manage its market engagement and sub-contracting processes.

Sizewell C CompeteFor portal:

This site is often used by businesses located outside the immediate East of England regional zone. Businesses will need to create a supplier profile on the website to access pre-tender work packages, project news, and direct supplier requirements.

Suffolk Chamber Supply Chain Portal:

Regional SMEs operating across Suffolk, Norfolk, Cambridgeshire, Bedfordshire, Hertfordshire and Essex. Commercial businesses will need to register their premises on the platform to gain direct exposure to tier 1 contractors via an exclusive member directory.

Jaggaer E-Procurement Solution:

This site is best for finding main contractor packages and high-level digital sourcing. Companies will need to monitor the hub to track awarded contract registries, map out who won major tenders, and identify lower-tier supply opportunities.

Where Dron & Dickson fit in with Sizewell C.
Other procurement and supply chain entry routes:

Another option for SMEs is that they can utilize dedicated publicly funded and chamber-led advocacy schemes to align their business models with upcoming contracts, these include:

Chamber Engagement Team:
Businesses can contact the Suffolk Chamber Supply Chain Team for supplier events, and face-to-face networking workshops with prime project buyers.

East Suffolk business support:
Businesses can access free, dedicated local business support frameworks deployed through the east Suffolk means business gateway to navigate geographic disruption or secure project growth funding.

Where Dron & Dickson fit in with Sizewell C. Compliance, safety, quality, and regulatory requirements in the nuclear sector:

Compliance in the nuclear sector is built on a “zero harm” culture governed by strict legal frameworks, independent regulators, and internal quality standards. Nuclear safety is unlike standard construction or engineering, nuclear procurement requires every supplier to prove absolute traceability, safety capability, and quality assurance before stepping onto a site.

LEGAL AND REGULATORY FRAMEWORKS:

Nuclear operations are heavily policed by independent government bodies to ensure public safety and environmental protection.
Office for nuclear regulation: the ONR is the UK's independent regulator for nuclear safety, security, and safeguards. It enforces compliance with 36 standard nuclear site license conditions, which govern everything from design changes to radioactive waste management.

Environment Agency: the EA regulates environmental permits, focusing on radioactive waste disposal and minimizing environmental impact under the environmental permitting regulations.

Nuclear safeguards: companies must comply with international treaties overseen by the international atomic energy agency to ensure all nuclear materials are accounted for and used strictly for peaceful purposes.

QUALITY ASSURANCE STANDARDS:

Quality in the nuclear sector means preventing defects that could cause catastrophic failures. The industry relies on specialized international standards to ensure consistency.

ISO 19443: This is the definitive standard for the nuclear supply chain. It builds upon ISO 9001 but adds rigorous controls for nuclear safety culture and managing counterfeit, fraudulent, or suspect items.

GS-R-3: This framework outlines management systems for facilities and activities, ensuring that safety is not compromised by choices made for efficiency or cost.

LTQR (Lifetime quality records): suppliers must provide absolute traceability. Every material, weld and component requires documentation proving its origin, manufacturing conditions, and test results. These records must be kept for decades.

NUCLEAR SAFETY CULTURE:

Safety in nuclear environments goes beyond standard industrial safety (like wearing hard hats) and focuses heavily on behavioral traits and operational design.

The golden rule: nuclear safety culture dictates that anyone, from a senior engineer to a trainee sub-contractor, has the authority and responsibility to stop work if they spot safety concerns.

ALARP Principle: all radiation exposure and risks must be kept as low as reasonably practicable. This means implementing engineering controls, shielding, and strict time limits to protect workers.

Human Performance: workers are trained in HU tools (such as “stop, look, listen and think”) to minimize human error during critical or repetitive tasks.

Where Dron & Dickson fit in with Sizewell C.

Because nuclear sites are high-security assets, the supply chain faces strict vetting and data protection rules.

BPSS & National security vetting:
workers entering nuclear sites require a minimum of Baseline personnel security standard (BPSS) clearance. Critical roles require higher security check or developed vetting clearance.

Sensitive nuclear information:
technical drawings, security layouts, and digital data relating to nuclear sites are classified as sensitive nuclear information. Suppliers must have certified cyber security systems (such as cyber essentials plus) to handle this data.

Where Dron & Dickson fit in with Sizewell C.

Because Sizewell C is a direct technical copy of Hinkley point C, it inherits the identical execution design, safety case, and overarching supply chain quality standards. Suppliers on this project must satisfy a strict set of Sizewell C specific frameworks:

SPECIFIC LEGAL AND REGULATORY TRIGGERS:

Development consent order (DCO) & CoCP: The project operates under a strictly enforced code of construction practice (CoCP). This legally binds all onsite sub-contractors to absolute environmental protection, noise mitigation, and community protection rules.

ONR License Conditions 17 & 19: under oversight by the office for nuclear regulation, SZC enforces rigorous structural integrity claims. Tenders mapping to the primary circuit or safety critical equipment faces continuous, deep inspection cascades down to the lowest supplier tiers.

Environmental Permits: the project requires specific construction and operational permits from the environment agency for surface water discharges, cooling water systems, and managing emergency backup diesel generators.

PROJECT QUALITY & SUPPLIER STANDARDS:

Replicated HPC quality standards: businesses that have already qualified for Hinkley Point C, are highly aligned for Sizewell C. System manufacturing requires strict adherence to ISO 19443 (nuclear safety culture for suppliers) and deep equipment qualification (EQ) protocols to prove components survive 60-year operational life cycles under intense stress. The SZC code of conduct: All suppliers must officially go onboard through the Sizewell C code of conduct, binding them to transparent carbon reporting, rigorous anti-counterfeit measures (CSFI), and explicit whistleblowing rules for safety.

Lifetime quality records: components designated for the “nuclear island” or “conventional island”- managed heavily by the civil works alliance- must be accompanied by comprehensive manufacturing trace logs that remain legally auditable for decades.

Where Dron & Dickson fit in with Sizewell C.

ONSITE HEALTH, SAFETY & SUSTAINABILITY CULTURE:

Zero harm strategy: Sizewell C enforces an overriding target of a zero-harm safety record. This blends conventional UK construction safety (CDM safety regulations 2015) with strict nuclear behavioral standards.

Supply chain sustainability school: SZC has actively mandated upskilling via this school. Local and national SMEs are expected to use their specific, free Sizewell C Supplier Development Program to systematically train staff on waste management, carbon reduction, and responsible sourcing before winning tier-based bids.

Where Dron & Dickson fit in with Sizewell C.

Sizewell C drives major regional economic growth and local supply chain participation by injecting nearly £1 billion into the east of England, engaging over 1,000 UK suppliers, and targeting a £4.4 billion regional investment.

REGIONAL ECONOMIC AND JOB IMPACT:

County GVA boost: projected to expand Suffolk's gross value added (GVA) by roughly 22% by 2050 relative to baseline forecasts.

Job creation: employs nearly 2,000 workers currently, scaling to a peak construction workforce where at least one-third are locally home-based.

Local funding: backed by a local community funding package exceeding £250million alongside specialized training and apprenticeship commitments.

SUPPLY CHAIN AND LOGISTICS PARTICIPATION:

Regional procurement: nearly £1 billion in contracts has been awarded across the East of England via platforms like the Suffolk Chamber of Commerce.

Coordinated logistics: major partnerships- such as the ABP, Brett and Tarmac alliance at the port of Ipswich- integrate marine and rail transport to handle high-volume building materials locally.

SME and upskilling access: small and medium enterprises gain direct procurement access and free training via programs tied to the supply chain sustainability school.