



CONTENTS

- 04 ABOUT STEVE VICK NUCLEAR SERVICES
- 06 OUR UK DEPOTS

08 PRODUCTS & TECHNIQUES

- 10 Sealing and Contamination Immobilisation
- 12 FOAMBAG™
- 14 Contamiseal™
- 16 Under Pressure Ts and Hot Tapping

18 PIPE & DUCT CUTTING

- 20 Keel Cutter
- 22 Large Diameter PE Cutter
- 23 Long Reach Tooling
- 24 Rapid Window Cutter
- 26 Rapid Rotary Cutter
- 28 SURVEYING
- 30 CONSULTING
- 32 DESIGN, DEVELOPMENT AND TESTING
- 34 CERTIFICATIONS AND MEMBERSHIPS





ABOUT STEVE VICK NUCLEAR SERVICES

Steve Vick International (SVI) has been operating within the UK gas distribution sector since 1981. During that time, it has designed, developed, and supplied many products and systems to aid in the replacement, rehabilitation, and decommissioning of pipelines throughout natural gas networks worldwide.

The systems and products developed are proven to be transferable to other industries with many projects being carried out at UK nuclear sites in the last 10 years. UK nuclear sites that have or are already deploying SVI systems include Sellafield, Chapelcross, Hunterston A, Hinkley A, Dungeness A, Hartlepool, Winfrith, and Harwell. Systems have also been supplied to Canadian Nuclear Laboratories for deployment at a Canadian nuclear power station.

This portfolio details the typical products and systems that have already been successfully developed and deployed over the last 10 – 15 years. It is not a definitive portfolio: the systems can be redeveloped and tailored to suit customer and site-specific requirements for individual projects and are always tested and proven in SVI facilities prior to supply or deployment.

SVI can design, test, and supply products and plant for customers to apply themselves after training or alternatively, SVI can supply a team of field technicians to carry out projects on the customers behalf.





OUR UK DEPOTS

We have a number of depots based across the UK offering contract services and technical support as well as hire and purchase of our products (pre-arranged through our customer service team on 01225 864864).









PRODUCTS & TECHNIQUES





Sealing and Contamination Immobilisation

SVI products for sealing contaminated pipework and ducts prior to cutting and removal have been developed from systems used for over 40 years within natural gas network in the UK and worldwide. They are normally applied through gas tight entry systems (Under Pressure Ts or UPTs) which are designed for specific site requirements.

Originally developed by SVI because traditional flow stopping and isolations within old pipework relied on air bags that would often fail due to debris and contamination within the pipe. The patented FOAMBAG[™] system uses an expanding polyurethane specifically designed to encapsulate and immobilise debris within the pipe before it eventually cures and sets hard sealing the pipe. The finished foam is closed cell and stops the passage of gases and liquids. The FOAMBAG[™] can also be sectioned using traditional cutting methods so that contamination and debris cannot escape the pipe or duct during removal, effectively capping the pipe prior to cutting. The foam expands and sets within 30 minutes.

FOAMBAGS[™] can be used in conjunction with other SVI techniques which allow for the mass filling of voids within pipes, ducts, and chambers (Contamiseal[™]). This allows for the easy sectioning of pipes and ducts with the risk of contamination release removed. This technique has been successfully deployed at multiple UK nuclear sites and has reduced areas from C3 to C2 environments.





FOAMBAG™

FOAMBAG[™] is a safe, simple, and versatile system for pipe, duct and void decommission and removal.

The FOAMBAG[™] technique has been developed for engineers working in nuclear decommissioning and emergency repair. The technique provides a solution to the problems of abandoning disused pipework, sealing off ducts, sleeves, ventilation shafts and filling all types of voids.

FOAMBAG[™] can be designed to fill any shape or size of pipe or duct. The cured FOAMBAG[™] may be cut through at the centre point preventing contamination escape during pipe or duct removal. Hot-tapping systems can be designed to allow the escapefree insertion of the FOAMBAG[™]. FOAMBAG[™] is a semi-porous fabric bag which holds in place a closed-cell polyurethane resin as it expands; at full expansion some of the foam seeps through the semi-porous material to adhere to the pipe wall. The foam absorbs or locks up any loose particles or contamination it comes into contact with. The technique is suitable for non-standard diameters and shapes and can be used on tapers and bends as well as on vertical pipe work.

The FOAMBAG[™] technique has been in use in the UK for over 30 years, and meets the UK gas industry technical standard T/SP/E/59. Projects have been successfully carried out on Gloveboxes at Sellafield.

Benefits

- Versatile suitable for non-standard sizes, tapers, bends, shapes and vertical pipework.
- Safety safe and easy to use.
- Flexible bespoke kits for individual projects.
- **Convenient** ideal where space is limited.





Contamiseal™

Contamiseal[™] is specifically designed for the nuclear industry to address the critical challenges associated with size reduction and disposal of contaminated pipework, ducts, and chambers. With its innovative mass-filling process, Contamiseal[™] offers a safe and effective method for immobilising contamination, mitigating risks, and ensuring optimal safety standards.

The nuclear industry faces unique and complex issues when it comes to decommissioning and decontamination projects. Contaminated pipework, ducts, and chambers can pose significant challenges due to the potential release of hazardous substances during size reduction and disposal. Contamiseal[™] is engineered to eliminate these risks by providing a reliable solution that not only immobilises contamination but also simplifies the overall process.

Benefits

- ► Enhanced Safety: Contamiseal[™] prioritises safety by minimising the release of hazardous substances during size reduction and disposal.
- Cost-effective Solution: Contamiseal[™] offers a cost-effective alternative to traditional methods of size reduction and disposal. By reducing the need for extensive dismantling and decontamination, it minimises project timelines and associated costs, delivering substantial savings.
- Versatility: Whether it's pipework, ducts, or chambers, Contamiseal[™] can be utilised across various nuclear infrastructure components. Its adaptability allows for a wide range of applications, providing flexibility to meet project-specific requirements.





Under Pressure Ts and Hot Tapping

Our Under Pressure T System provides a reliable solution to make live branch connections for new supplies and offtakes in your nuclear facility. With this innovative system, our Nuclear Contract Service team can seamlessly create live branch connections for water or gas, without the need to switch off the supply.

Our Under Pressure T System offers a versatile solution that can be used on 1" to 36" diameter pipes, providing the perfect answer to the challenge of adding new offtakes without interrupting the supply. Traditional methods often involve shutting down utilities infrastructure, causing delays and inconveniences. However, with our Under Pressure T System, you can make live branch connections without disruptions, ensuring uninterrupted operations.

Benefits

- Time and Cost Savings: You can avoid the extensive planning and logistical challenges associated with shutting down utilities infrastructure. This results in improved productivity and reduced downtime, allowing you to focus on your core operations.
- Minimal Working Space: Our Under Pressure T System requires only a small amount of working space, reducing the need for costly and time-consuming excavations. This compact design allows for quick and efficient installations, ensuring that your operations can resume swiftly and with minimal disruptions.
- Enhanced Flexibility: With the ability to make live branch connections, you gain increased flexibility in managing your nuclear facility's infrastructure. You can add new supplies and offtakes as per your operational requirements, without the constraints of shutdowns. This adaptability helps streamline your processes and ensures optimal resource utilisation.







PIPE & DUCT CUTTING



Keel Cutter

The Keel Cutter is a cutting-edge circumferential cutting and bevelling machine ideally suited to the nuclear sector. Keel Cutter revolutionises the way steel, cast iron, ductile iron, cement, and asbestos pipes, up to an impressive 1600mm in diameter, are cut in nuclear applications.

The machines are driven by hydraulic power allowing the blade to track automatically around the circumference of the pipe wall and underwater if necessary, ensuring precise cuts every time. Choose from two superior models: the N450 and the N600, each designed to meet specific nuclear industry demands.

The N450 model impressively cuts pipes ranging from 200mm diameter up to 750mm (30"), and even up to 900mm (36") with the extension chain fitted. The approximate cutting speed stands at an impressive 140mm (6") per minute.

For more substantial nuclear applications, the N600 model steps up to the challenge, efficiently cutting and bevelling pipes ranging from 250mm (10") diameter up to an impressive 1600mm (60") diameter with the extension chain fitted. Operating at an approximate cutting speed of 100mm (4") per minute, this tool is designed to tackle large-scale projects.

- **Automatic tracking** cutter automatically tracks around the pipe.
- Multi-purpose cuts steel, cast iron, ductile iron, asbestos, and cement pipe.
- Quick cutting time approximately 8 minutes to cut a 300mm (12") diameter cast iron pipe.
- **Versatile** works in water if required.
- > **Adaptable** different blades available for different pipe material.
- Lightweight simple to set up and operate.
- **Long lifespan** supplied with maintenance tools and security case.





Large Diameter PE Cutter

The PE Pipe Cutter offers an accurate, safe, and more efficient method of circumferentially cutting large diameter PE pipe when compared to traditional methods.

It easily cuts pipes with diameters of 250mm and above, with wall thicknesses up to 70mm in one full pass. The machine is low profile, pneumatically powered and capable of accurately completing a full circumferential cut on 630mm PE pipe in less than 5 minutes. This compares favourably to standard cutting techniques and represents a significant time saving.

Safety is paramount in the nuclear field, and the PE Pipe Cutter excels in this aspect. Specifically designed for use in both above ground and in-ground scenarios, this cutter requires minimal clearance, making it ideal for confined spaces. Standing at a total working height of just 170mm, it ensures maximum safety and manoeuvrability without compromising on performance.

- Improved safety negates hazards associated with chainsaws, circular saws or hacksaws as the cutting device remains enclosed in wall of PE throughout cut.
- Extremely quick cutting time approximately 3 minutes to cut a 630mm diameter PE pipe.
- Precision cutting reduces need to "finish" the pipe ends before butt fusion or socketing.
- **Environmentally friendly** swarf is collected as the unit rotates around the pipe, reducing the amount of microplastics emitted with a 98.5% pick-up rate.
- **Lightweight** simple to set up and operate.
- Versatile chain can be easily adjusted or added to, to suit different pipe diameters.
- Long lifespan supplied with a range of bespoke cutting tools, maintenance tools and security case.



Long Reach Tooling

Long Reach Tooling is a groundbreaking solution designed specifically for nuclear sites. These advanced tools are crafted to enhance safety, efficiency, and precision in your projects. They let your team reach difficult spots, control tasks remotely, and reduce radiation exposure. Our Long Reach Tools are all about keeping your team safe while getting the job done right. Experience innovation that safeguards your personnel and optimises your projects.

Discover the Benefits of Long Reach Tooling:

- Stay Safer: Our Long Reach Tools minimise radiation exposure, making it safer for your team to work in tight spaces. The extended reach also lowers radiation risks, ensuring everyone's well-being.
- Work Efficiently: Make decommissioning quicker and more cost-effective. Long Reach Tooling lets you access tight areas with ease, saving you time and money. It's all about making your work smoother.
- Remote Control: Operate tasks from a safe distance with our remote control features. Long Reach Tools reduce direct contact with radioactive materials, giving your team added protection and peace of mind.
- Boost Health and Safety: Long Reach Tooling goes beyond efficiency it reinforces your team's health and safety. By cutting down radiation exposure and enabling remote operations, your team can work confidently and securely.



Rapid Window Cutter

Ductile iron poses unique challenges within the nuclear industry due to its inability to be broken out like cast iron. However, the Rapid Window Cutter is specifically engineered to address this issue.

This hand-held tool is meticulously crafted to provide precise and rapid cutting of windows in ductile mains, whether they are abandoned or currently in use.

With its ground breaking design, this tool offers a revolutionary alternative to conventional methods. It boasts the ability to cut a window on 100mm/4" ductile iron in less than 10 minutes, significantly enhancing efficiency and saving valuable time.

Easy to operate, the cutter simply connects to the onsite compressor. A single operative can then engage the trigger, lower the blade and glide the unit along the main. The operator can pivot the chassis easily to change from circumferential to longitudinal cuts.

- **Fast:** A typical size window is cut in less than 15 minutes 50% faster than traditional equipment.
- Safe: The cutting disc is mounted well away from the operator's hand; automatic emergency cut- off on trigger handle.
- **Cost effective:** Available to hire, purchase or carried out as a Contract service.
- **Easy to use:** Compact, lightweight and simple to operate one man operation.
- **Precise:** Depth control discs prevent damage to inserted PE.
- **Clean:** No water is needed resulting in a cleaner trench.
- **Adaptable:** Designed to be compact, no need to dig under main.
- > Air powered: Uses on-site compressor, avoiding need for extra power source.





Rapid Rotary Cutter

The Rapid Rotary Cutter tackles the unique challenges of circumferential cuts on ductile iron pipes in decommissioning projects.

Designed with nuclear decommissioning in mind, the Rapid Rotary Cutter harnesses the power of compressed air to effortlessly cut around ductile iron mains. With its exceptional speed, this tool can efficiently slice through a 4" main in just about 2 minutes, ensuring maximum productivity and time-saving benefits for your decommissioning operations.

Manufactured from durable materials, the Rapid Rotary Cutter features two robust aluminium shells that interlink seamlessly around the perimeter of the main. With minimal effort, the operator manually rotates the unit 360°, resulting in precise circumferential cuts with utmost accuracy. This level of precision ensures the efficient dismantling of ductile iron pipes during nuclear decommissioning projects.

- **Fast:** Extremely quick cutting time approximately 2 minutes to cut a 4" ductile iron main.
- **Quick assembly:** The two shells are connected over the main in seconds.
- Adaptable: One unit for all three sizes using different frames; 75mm/100mm, 150mm and 200mm (3"/4", 6" and 8").
- **Easy to use:** Compact, lightweight and simple to use one man operation.
- Convenient: Needs smaller trench than traditional cutters less than 10cm clearance needed around the main.
- **Safe:** The cutting blade is mounted away from operator's hand.
- **Precise:** Depth control discs prevent damage to inserted PE.
- **Clean:** No need for water when cutting ductile resulting in cleaner trench.



SURVEYING

At SVI, we understand the critical importance of nuclear decommissioning and the challenges it presents. That's why we've developed cutting-edge CCTV survey systems specifically tailored to streamline the process and enhance efficiency, especially when it comes to pipeline inspections within nuclear facilities.

Our CCTV survey systems offer a significant advantage for nuclear decommissioning projects, particularly in regard to preserving network uptime. Unlike traditional methods that require shutting down the network for inspection, our innovative technology allows for inspections to be conducted without interrupting operations. By utilising bespoke Under Pressure Drilling saddles and UPTs, our survey systems can be seamlessly deployed into pressurised pipes. This eliminates the need for costly shutdowns and minimises downtime, enabling uninterrupted workflow throughout the decommissioning process.

Originally developed for a high-profile project at Sellafield, our CCTV survey systems have proven invaluable in internal pipe inspections. They provide visual confirmation of valve operations, allowing for enhanced monitoring and maintenance. Furthermore, our systems facilitate the collection and testing of pipe wall samples, enabling a comprehensive understanding of the expected lifespan of the pipe materials on site.

With SVI's CCTV push rod systems, Under Pressure Ts, and Hot Tapping capabilities, we offer an all-in-one solution for nuclear decommissioning. Our technology enables thorough pipe wall inspections and testing, ensuring the integrity of the infrastructure. Additionally, our measurement and analysis tools provide valuable insights for decision-making and optimisation throughout the decommissioning process.

By choosing SVI's CCTV survey systems, you're not just investing in cutting-edge technology – you're embracing a solution designed to enhance safety, efficiency, and cost-effectiveness in nuclear decommissioning.





CONSULTING

With over 40 years' experience in industry where pipelines are crucial, SVI is often able to give advice to clients to enable best practice solutions to be used in individual projects.

SVI are a well-respected, multi award winning company within the UK gas networks. SVI have also won multiple awards within the nuclear industry. In 2014, SVI won a prestigious NDA SME Supply Chain Award; "Best application of an innovative solution with tangible savings/benefits". This was for a project at the Harwell BEPO reactor site. More recently, SVI won the "New to Nuclear" award from Morgan Sindall for the CCTV inspection of Sellafield site hydrants and several projects to install electro-fused, large diameter branch saddles and air bleed valves to existing Polyethylene pipe networks.



- Hot Tapping
- FOAMBAGS™
- ▶ Contamiseal[™]
- CCTV Inspection
- Project Management
- Technical Report Writing





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31

DESIGN, DEVELOPMENT AND TESTING

Technically challenging projects often require a degree of design and development to ensure that the product or technique being implemented is suitable for the environment or scenario.

SVI have a proven track record of designing systems to suit challenging environments and specific site or project requirements. Testing and proving of these systems are carried out at SVI headquarters and at our testing facilities in Bradford On Avon, West Wiltshire. SVI supply technical reports for clients once testing has been completed and welcome witnessed testing throughout any design project.

Most of our nuclear systems are based on the redesign of already well-established gas products and techniques. All have been designed to suit the technical scope of client projects based on discussions, site visits and project planning.

Several recent projects have been carried out to determine the suitability of installing SVI products using robotic platforms at Fukushima Daiichi in Japan. Technical reports have been produced and supplied to clients and initial results are very encouraging.

- High Pressure CCTV Entry System
- Under Pressure Ts and Hot Tapping
- Cutting Machinery
- Pipe Handling
- ► FOAMBAGS[™]
- ▶ Contamiseal™
- Design
- Testing
- Technical Report Writing





Certifications and Memberships

We are proud to be certified by:



We are proud to be a member of:







Utility Networks









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