



**Shepley** Engineers Ltd

# Shepley Engineers.

---

## HVAC Services Booklet

---

Frank Shepley created Shepley Engineers in Manchester in 1948, and since then we've been a nuclear stalwart. In late 1948 we were working on the stainless reactors on the Windscale Piles, and was involved in the commissioning of the world's first commercial nuclear power plant, Calder Hall. Over seventy years on, through natural growth and acquisition of our member companies, we're established as a major contractor within several highly-regulated industries.

# Shepley HVAC Services

“Our Vision – to strengthen our position in the HVAC Services sector as a leading provider of high quality bespoke solutions that consistently deliver value and regularly exceed our customers’ expectations.”

“Our Mission – to continuously improve our delivery model with the assistance of our supply chain partners and to build on the reputation and excellence of our teams whilst maintaining the highest standards of quality, safety and environmental responsibility”



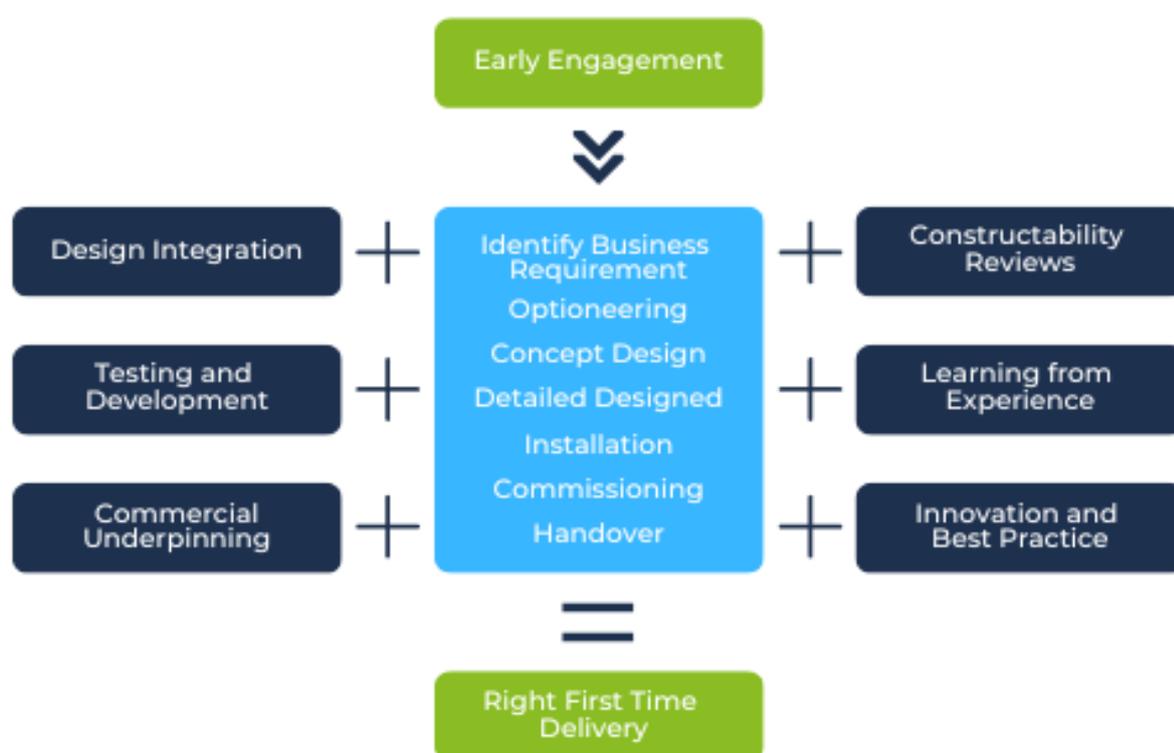
## Gavin Jakubowski

Managing Director, Shepley Group



# HVAC Services Delivery Model

Shepley HVAC Services are dedicated to providing the highest levels of quality and customer service to our clients. Over the last two decades our highly experienced teams have successfully delivered a large number of prestige projects and have established a reputation for being proactive in providing bespoke solutions for the most exacting of HVAC design and installation requirements. However working closely with our customer base we were quick to recognise that evolving site requirements will require a more flexible and collaborative delivery approach in the future. As a provider of HVAC Services on the Sellafield Site we fully support this initiative and have developed our successful business model to meet our customers' needs and to provide a more complete service going forward.



The delivery model we have developed alongside our supply chain partners encompasses the “one stop shop” ethos. Our model has the capability to support the end to end management of the works throughout all phases of the project lifecycle. The flexibility of this delivery model is such that it can be implemented on the simplest asset care task right through to the most complex of HVAC installations and it can be aligned to meet the requirements of any delivery framework. The basic principles of the delivery model illustrated above are based around early engagement of the contractor and utilising the potential knowledge of the supply chain to promote right first time delivery. It defines the key elements where the supply chain can support the delivery process and add measured value to the project in terms of cost and time. The above is a simplification of how the process is applied but the key benefits are described overleaf.

### **Innovation and Best Practice**

- Utilise the knowledge of the supply chain to recommend new technologies or products.
- Embrace industry best practices.
- Early stakeholder engagement during optioneering process.
- Ensure compliance with client procedures and legislation.

### **Learning from Experience**

- Apply learning from experience of similar projects so as not to replicate fundamental design and installation errors.
- Apply local knowledge gained from delivering in similar environments.
- Identification and management of risk.

### **Constructability Reviews**

- Continuous review process to ensure right first time installation.
- Advise on installation methodology to rationalise access requirements.
- Development of commissioning strategy.
- Ensure best utilisation of fabrication and installation capability.
- Significant reductions in volume of technical queries in drive towards “Zero Concessions”.

### **Design Integration**

- Development of bespoke design solutions.
- Provision of surveys and site measurements.
- Detailed scope development.
- Reductions in volume of over-engineered solutions.
- Integrated approach utilising multi-discipline design capability within the supply chain.
- Rationalisation of detailed design requirements by advocating site install philosophy wherever practicable.

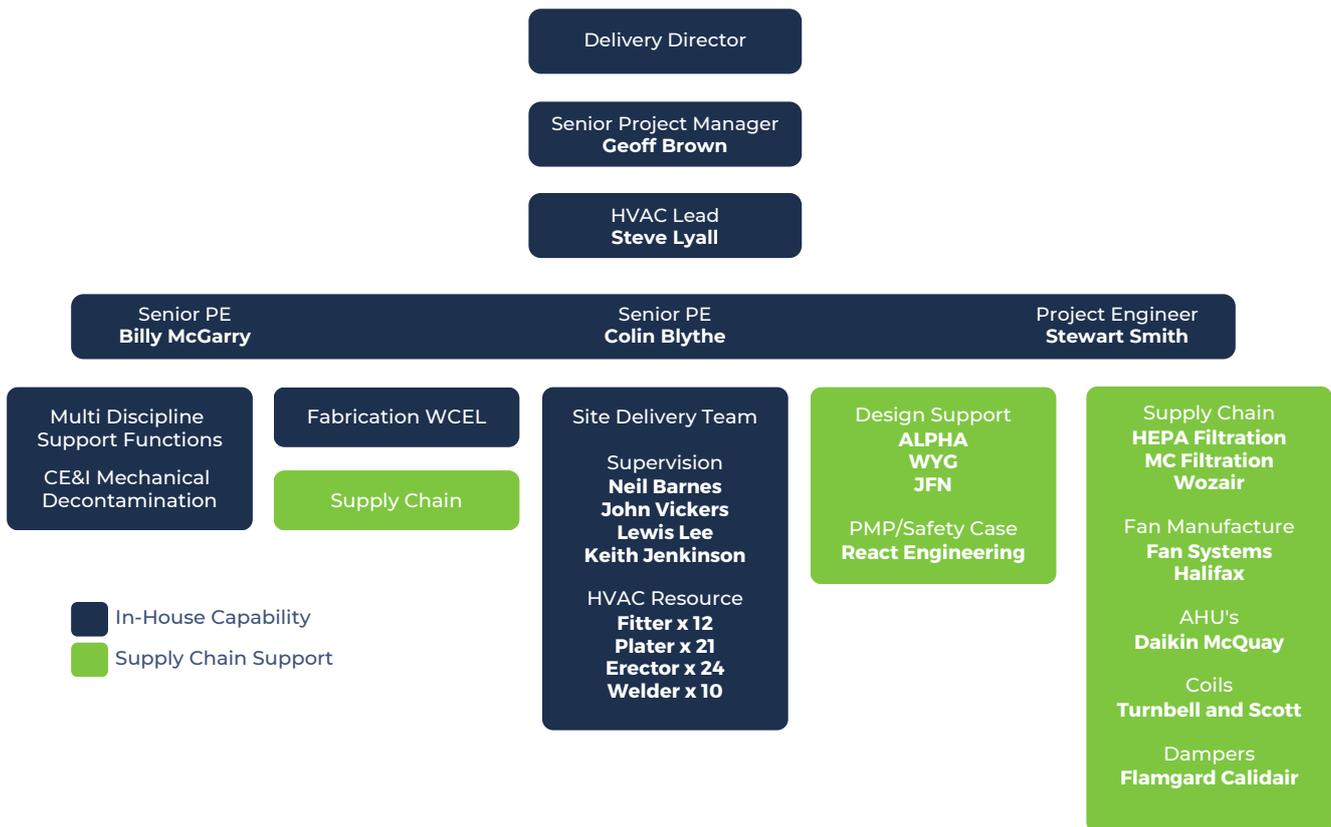
### **Testing and Development**

- Utilisation of local fully equipped test facility to minimise risk of costly post installation modifications.
- Development and co-ordination of installation strategies.
- Familiarisation training leading to increased efficiency during on-site installation.
- Reductions in on-site commissioning requirements.

### **Commercial Underpinning**

- Realistic cost estimates throughout the sanction process.
- Recommendation of cost effective solutions, both design and install.
- Underpinned forecast spend projections.

# Organisational Structure



# Meet the Team

## HVAC Lead

The HVAC Services team is led by Steve Lyall who has over 30 years' experience of HVAC project delivery in some of the most exacting nuclear environments. Well respected within the Sellafield HVAC community and the external supply chain, Steve, has become very much the "go to" man for project design teams and plant system engineers seeking bespoke solutions. The depth of his technical knowledge and experience in all aspects of project delivery has been fundamental in the development of our business model and his input has been influential in the selection of our core team. The implementation of that model and the "can do" attitude that Steve has instilled within



his team has seen them at the forefront of delivery of some of the most prestigious projects on Sellafield Site. Not one to rest on his laurels Steve continues to lead from the front as he seeks out new challenges or opportunities for his team moving forward. The responsibilities of the role are often project specific but below are some of the key benefits realised on past projects:

- Co-ordination of delivery from design input / support through to post installation completion.
- Input to Stakeholder Management forums.
- Technical support and constructability throughout design phase.
- Support to scoping and planning activities.
- Management of supply chain interfaces.
- Responsibility for design and installation delivery (both in-house or across framework).
- Cost-effective approach to underpinning commercial sanction.
- Driving continuous improvement and the application of LFE.

## Project Engineering

The senior member of the Project Engineering team, Colin Blythe joined the group in 2014 after a long career with Sellafield Ltd. He is a highly experienced HVAC Engineer with a proven track record of project delivery in numerous site facilities and has well established relationships with the site infrastructure HVAC support functions. Apart from his vast experience in front end nuclear delivery, Colin, also has the capacity to view the task from a client perspective which is invaluable in allowing us to tailor our offering to meet their specific customer needs.



Tony Windle is a highly capable HVAC Engineer with many years of experience delivering projects within the industry and joined us from BAE in 2015. He has imported his wealth of knowledge gained from outside of the nuclear environment and has been instrumental in introducing new innovations and industry best practices to our business model. As part of our drive towards continuous improvement Tony continues to develop our non-insular approach to embracing new technologies and installation techniques through his wide network of supply chain contacts.



A product of Shepley Group's long term succession plan to develop the next generation of engineers, Stewart Smith, has risen through the ranks to become a valued member of the HVAC Services team. Already very capable but under the mentorship of the senior team members it is envisaged that he will become a key asset to our organisation in the future. Even though his time as an engineer has been relatively short he has already assembled an impressive portfolio of work and the application of his background in mechanical engineering has proved advantageous in his ability to deliver fully integrated solutions.



The roles and responsibilities of the engineering team are tailored to meet the individual client requirements and are often project specific but below is a short summary of the key benefits that they can provide:

- Technical assessment of works packages and provision of technical support to design.
- Sub-contract and supply chain management.
- Management of Health, Safety, Environmental and Quality assurance support throughout the lifecycle of the projects.
- Management of delivery portfolio.
- Progress reporting.
- Forward load planning (Resource).
- Change control management.
- Attendance at HAZAN, HAZOP, Readiness Reviews etc.
- Provision of engineering support to the front-end delivery supervisors.

## **Supervision**

Shepley group have a team of dedicated supervisors with extensive experience of delivering a wide range of HVAC projects on several Nuclear Licensed Sites. Each of our supervisory team has multi-discipline capability and is trained in the co-ordination of works and management of sub-contractors. The organisational structure defines the core team members but there is capacity within the Group and our supply chain partners to expand the team based on portfolio demand. The role of the supervisor is dependent upon the demands of the project but several of their key inputs are listed overleaf:

- Co-ordination and front end delivery of site works.
- Materials logistics (“Just In Time”).
- Waste management.
- Forward load Planning (Resource) in conjunction with the relevant PE.
- Sub contract management.
- Provision of Health, Safety, Environmental and Quality assurance support through the life cycle of the tasks.

## **Installation Resource Capability**

At the centre of our HVAC Services capability is our experienced HVAC installation team and this is fully supported by our in house CE&I, Mechanical & Decommissioning Engineering departments to provide a seamless fully integrated approach to promote right first time delivery. Each individual team member is highly skilled in their core discipline but also carries forward the experience and knowledge gained from delivering as part of a multi-discipline team across a wide range of HVAC projects. This flexible approach to delivery not only expands our overall capability but the complementary skillset afforded by composite delivery teams has proven benefits in terms of efficiency. Our core team of approximately 60 operatives can be supplemented from within our internal engineering teams or alternatively through our supply chain partners. All of the Shepley HVAC resource capability possesses either SC or DV security clearance allowing them to be deployed with minimum lead times.

## **Fabrication Capability**

West Cumberland Engineering (WCEL) are a well-established and experienced fabrication company specialising in the manufacture and testing of high quality welded fabrications mainly for the nuclear and petrochemical industry sectors. The fabrication facilities are supported by our fully equipped machine shop to provide a comprehensive manufacturing capability and our extensive facilities at our Lillyhall works are also widely utilised for final assembly, mock-ups, testing & familiarisation training prior to the installation of equipment within the live plant environment.

Typical fabrication and manufacturing services WCEL can provide include:

- High Integrity Ductwork to ES\_0\_1723\_2, DW/144 & DW/142 Specifications.
- High Integrity Glovebox Manufacture.
- Process Pipework Fabrication.
- Manufacture of Tanks, Vessels, Modular Assemblies, Flasks etc.
- Machining of Precision Components (Manual / CNC / EDM).



The WCEL engineering team are dedicated to achieving the highest quality standards and operate a quality management system that is accredited to BS EN ISO 9001:2015. The quality management system incorporates the requirements for fusion welding of metallic materials (ISO 3834-2) and also for the manufacture of fabricated steel components (EN 1090-2 & 3). All services provided by WCEL are delivered in accordance with the latest HVAC specifications / nuclear specific engineering standards and are undertaken by SQEP personnel to third party approved procedures. For further information on our quality systems or manufacturing capability refer to later sections of this document or visit our website at: [westcumberlandengineering.co.uk](http://westcumberlandengineering.co.uk)

## Design Support

Shepley HVAC and their supply chain partners have the capability to provide a complete range of design services. From supporting with technical assessments and constructability reviews through to providing detailed design solutions we are able to supply a professional service to accommodate any customer requirement. All of the supply chain partners we utilise to provide design services are industry accredited and are approved suppliers to Sellafield Ltd. The outsourcing of design services allows the client design authority to assume the intelligent customer role and can afford greater flexibility in deployment of their critical resources. Our integrated approach to design and delivery also affords us the opportunity to rationalise design outputs and to provide real benefits for our customer in terms of time and cost. Key elements of the service we can provide are listed below:

- Optioneering Studies.
- Scope and Business Case Development.
- Concept Development.
- Technical Specification.
- Site Surveys and Computer Modelling.
- Detailed Design Delivery.
- Testing and Commissioning Documentation.
- PMP and Safety Case Production.

## Supply Chain Interfaces

We have a well-established working relationship with our supply chain partners who have supported and continue to support the Shepley group with a number of HVAC projects. All of our current partners are approved suppliers to Sellafield Ltd. but our delivery and quality management teams are continuously looking to expand our capability by bringing new suppliers into the fold. We view this philosophy as crucial to maintaining the quality of our service and keeping us at the forefront of new innovation whilst realising benefits to our customers through competitive pricing. The products and services we can offer through our supply chain network is wide ranging but below is an indication of the key market sectors.

- Filtration.
- Fan Design and Manufacture.
- ACU Supply and Commission.
- AHU Design and Manufacture.
- Coil Design and Manufacture.
- Glovebox Manufacture.
- Damper Supply.

## Quality

Quality Management is afforded the highest priority and we regard it as fundamental to managing our customer needs and expectations. We recognise that quality performance has a significant influence on all aspects of the products and services we provide and to maintain our standards we operate a Quality Management System compliant with the requirements of BS EN ISO 9001:2015. This process and our strategic commitment to the doctrine of continuous improvement ensures that we will remain best positioned to meet our customers' future demands. The documents associated with our Quality Policy, Certificates of Approval and Accreditations are available on request, but the key elements are:

### **Non-Destructive Testing (NDT)**

- Liquid Penetrant - Qualified to PCN Lvl II and PCN Lvl III.
- Magnetic Particle Testing.
- Ultrasonic Testing.
- Radiography.
- Leakage / Pressure Testing - Conducted by SQEP Engineering Team.

### **Welding (Certified by UKAS Accredited Test House)**

- Welding Procedures to BS EN ISO 15614-1, BS EN ISO 15614-2 & BS EN ISO 14555.
- Welder Qualifications to BS EN 287-1, BS EN ISO 9606-1 & BS EN ISO 9606-2.

### **Inspection Services**

- Welding inspection to PCN Level 2.
- NDT to CSWIP 3.1/3.2.
- Painting to ICorr Painting Inspection Level 1.

### **Supply Chain Management**

- Dedicated supply chain management team monitoring and measuring supplier performance.
- Assimilation of best practices and driving continuous improvement.

### **Compliance Management**

- Dedicated team of quality professionals to ensure compliance with BESA, UK/EU Nuclear and Client Engineering Standards.

## Health, Safety and Environment

At Shepley Group we recognise that we have a responsibility for the health, safety and welfare of not only our employees but also those who may be affected by our operations. We also recognise that we have a responsibility towards the environment we operate in. For that reason, our Health & Safety Management System and Environmental Policies are always a prime consideration in everything we undertake. Our management systems are based around a policy of continuous improvement and we continuously monitor our performance against our primary objectives and the standards and expectations of our customers. To achieve these objectives and to promote our group safety / environmental awareness culture we have an ongoing commitment to actively invest in training, equipment and process development. The success of this approach has been evident in that we have been awarded ROSPA Gold Awards or Orders of Distinction in consecutive years since 2001 and are regularly in receipt of the Sellafield Management of Contractors Safety Award. The documentation associated with our Health & Safety Management System and Environmental Policies are available to review on request, but the key elements are summarised below

- Dedicated Professional Health and Safety Team.
- Appointed Environmental Manager.
- Documented Operational Control Procedures.
- Internal SHEAR Audit Process.
- Occupational Health assessment.
- CSCS Skill Card Scheme.
- CHAS registration.
- BS OHSAS 18001 Occupational Health and Safety Management Accreditation.
- BS ISO 14001 Environmental Management Accreditation.



# Case Study

## Project - Red Extract Replacement

Location:

**FHP Sellafield**

Client:

**NNL**

Duration:

**18 Months**

### Project Overview

The Red Extract system is critical to the operation of the B13 facility and is the primary source of ventilation for the in-cell caves. The existing system had been in service for over three decades and was fast approaching the end of its intended design life. The project brief was to design and install a bespoke solution that would support the plant for the remaining duration of its operational life.



### Key Services Provided

- Utilising the services of our supply chain partners to develop the client's concept design into a bespoke detailed multi-discipline design solution.
- Provision of technical support throughout the project design phases to ensure constructability considered in final design.
- Development of installation strategy to minimise disruption to plant operations during the installation phase.
- Manufacture and supply of high integrity ductwork and replacement extract fan units.
- Manufacture and supply of CE&I control equipment.
- Integrated works testing at supply chain facility to reduce onsite commissioning requirements and eliminate potential issues prior to installation.
- Multi-discipline installation team.
- Comprehensive Life Time Quality Record

## Project Delivery Portfolio

Shepley HVAC Services are pleased to have been associated with the successful delivery of the following projects:

- R4011 AHU Replacement.
- R72001, R72002 and R72003 AHU Modifications.
- HLW Inadequate Ventilation Upgrade .
- Fans 6 & 7 Motor and Control System Replacement.
- PF&S North Shunt Plenum Ventilation Refurbishment.
- Magnox Plant Rooms Fan Damper Replacement .
- Store 9X Plenum Refurbishment.
- Store 9 Plenum Refurbishment .
- R3009 / R3010 AHU Replacement.
- Reverse Flow and TDN Filtration Systems.
- Store 5 Plenum Refurbishment.
- R3005 AHU A&B Replacement.
- K0001 & 2 AHU Replacement.
- TEDAK Room Air Flow Improvements.
- Lab 24 and Lab 28 Refurbishment.
- Lab F Glove Box C5 Filter Replacement.
- Lab E Alpha Active Demonstrator Ventilation Connection .
- Pressurised Inerting Phase 2 Ductwork Modifications.
- South Side C5 Extract 1st Extension Cavity Extract and Bleed in Ductwork.
- Lateral Restraint Tower Fan & Plant Room Ductwork.

The above list is not exhaustive but offers an illustration of the wide range of projects where SEL HVAC Services have developed their delivery model in the most challenging of environments.

## Summary of Our HVAC Offering

We firmly believe that the Shepley group of companies and their supply chain partners can provide a fully integrated solution for any HVAC project or task on Nuclear Licensed Sites utilising our effective and efficient end to end delivery model.

- Strategic fit for purpose design solutions supported by early engagement of key stakeholders.
- Integrated approach to right first-time practices.
- Cost efficient, sustainable delivery model that supports portfolio scalability.
- Optimum bespoke solutions utilising previously gained LFE.
- Focussed scope definition and forward planning (resource optimisation, parallel task delivery)
- Efficiencies gained by utilisation of streamlined approach to local SME's.
- Reduced design costs due to early vendor/installer integration (Constructability).
- Extensive In-house manufacturing and fabrication capability (ME&I and HVAC).
- Risk and Stakeholder Management.
- Safety Documentation Production (PMP's, HAZOP etc).
- Civil Design and Site Works.
- Integrated Works Co-ordination.
- Offsite Testing Facilities (FAT / Integrated Works Testing).
- Multi-discipline SQEP Installation Teams.
- Provision of Commissioning Services.
- LEV system statutory testing to BOHS P601 standard.

## Contact Us

The content of this brochure is only a sample of the services the Shepley HVAC Services team can offer. If you wish to discuss any of the services contained within or alternatively require more information do not hesitate to contact our team as they would only be too happy to deal with your enquiry.

### General Enquiries

**Geoff Brown**

Mob: 07793 525692

Email: [geoff.brown@shepley.vhe.co.uk](mailto:geoff.brown@shepley.vhe.co.uk)

### Technical Enquiries

**Steve Lyall**

Tel: 01946 743126

Mob: 07592 015739

Email: [steve.lyall@shepley.vhe.co.uk](mailto:steve.lyall@shepley.vhe.co.uk)

### Manufacturing Enquiries

**Graeme Phillips (Mechanical)**

Tel: 01900 872787

Mob: 07515 995007

Email: [graeme.phillips@wcel.vhe.co.uk](mailto:graeme.phillips@wcel.vhe.co.uk)

**Mike Brown (CE&I)**

Tel: 01229 433838

Mob: 07581 230025

Email: [mike.brown@pps.vhe.co.uk](mailto:mike.brown@pps.vhe.co.uk)



# Get in touch.



**The Shepley Group**

## Shepley Engineers Ltd

Old Town Hall, Duke Street,  
Whitehaven, CA28 7NU

**Tel:** 01946 599022

**Email:** [engineers@shepley.org.uk](mailto:engineers@shepley.org.uk)

[www.shepleyengineers.co.uk](http://www.shepleyengineers.co.uk)

 @ShepleysUK

 Shepley Group

 Shepley Engineers Ltd



renew

A wholly owned subsidiary  
of Renew Holdings Plc