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Pipeline Cost Control Database

Benefits of the System

The Pipeline Cost Control Database offers complete cost reporting for pipeline projects throughout the project's life. This system provides Quantity Surveyors and Commercial Managers with the information required to effectively manage Contractor's operations. The system provides the Employer with a greater knowledge of the Contractor's costs than the Contractor. This information is of paramount importance and assistance to the Engineer in his evaluation of issued variations and claims.

The Employer is in full possession of the Contractor's costs enabling Employers to negotiate on an even basis and monitor the Contractor's performance more effectively.

- Achieves 100% accountability of resources used on a project.
- Prevents errors from occurring in the allocation of resources through the identification of double booked or missed resources.
- Enables each individual resource, whether it be a tradesman or an item of equipment, to be plotted and recorded thus creating a unique project history for each resource.
- Enables actual operational expenditure to be monitored against envisaged.
- Enables cost and time forecasting for individual operations and the project overall based on actual cost and progress information to date.
- Enables as built costs to be quantified by gang, by task or by any other parameter required to quantify actual costs and variations.
- Enables as built cost/allocation information to be available within minutes, if not seconds.
- Enables unit costs to be applied to specific operations as means of monitoring progress on a daily basis.
- Enables actual and projected areas of overspend to be identified early based on as built resource information.
- Provides a means of achieving the level of documentation required to evaluate actual cost and variations.
- Promotes the production of all base record documentation and all other documents which have a significance on the commercial outcome of the project.

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Base Record Requirements

In order to maintain the validity of the database, the information contained within the database must be supported by the Cost Reporting System's Base Records. These documents are written into the contract as being produced by the contractor on a daily basis.

There are basically two classes of Base Records;

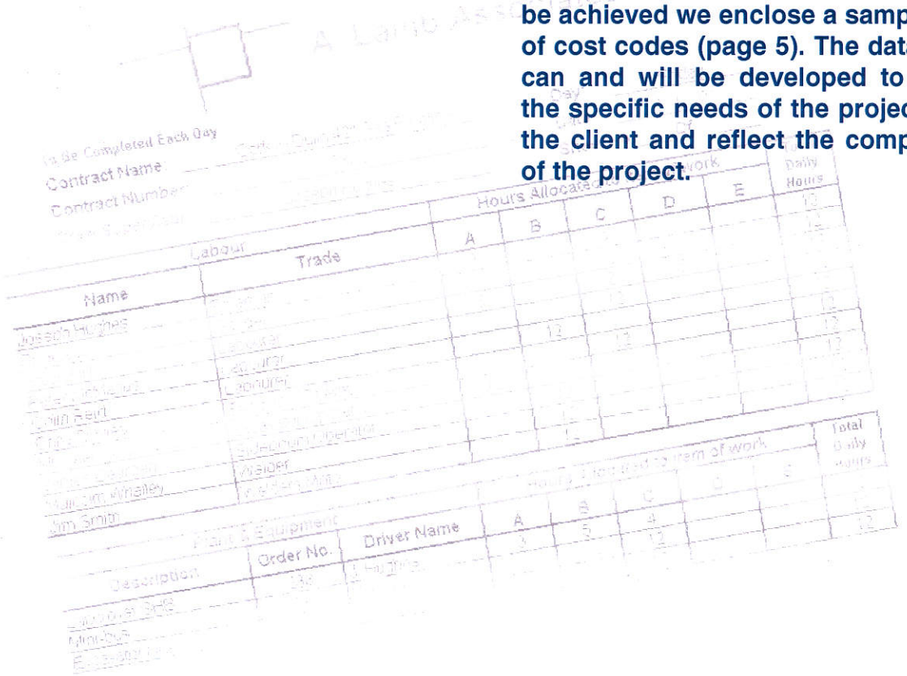
- Base Records which substantiate the allocation of specific resources.
- Base Records which substantiate the progress of the project.

Examples of these types of Base Records are as follows:

- Contractors Daily Site Allocation Sheets.
- Inspectors Daily Site Allocation Sheets
- Plant Schedule Summary.
- Labour Schedule Summary.
- Sub-Contractor Daily Allocation Sheets.

These base records must be collected, catalogued and recorded via the Pipeline Database System. Throughout the duration of the project the Quantity Surveying Department will build a library of cost documentation (base records) which will reflect expenditure.

As an example of the detail that can be achieved we enclose a sample list of cost codes (page 5). The database can and will be developed to meet the specific needs of the project and the client and reflect the complexity of the project.



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Quality of Reporting

Below is a list of typical cost codes used on major pipeline projects. The codes listed reflect operations common to pipelines. In addition to these codes, further cost codes may be added and existing codes may be divided to reflect more specific operations i.e. *N01.1 – Pipe Stringing (Heavy Wall) & N01.2 – Pipe Stringing (Light Wall)*

Staff - Salaries, Cars and Fuel	A01	Trench Excavation	L01
Working Area Overhead	A02	Pipe Bending	M01
Office Establishment	A03	Pipe Stringing	N01
Office / Site Running Costs	A04	Weld Procedure Qualifications	P01
Uninsured Losses	A06	Pipe Facing & Set-up	P02
Design	A07	Mainline Welding - Front End	P03
Fee	A08	Mainline Welding - Back End	P04
Photography	B01	Pipe Fabrication	P05
Route Survey	B02	Repair Welding	P06
Surveying & Setting Out	B03	Pipe Entry Crew	P07
Transport of Plant & Offices	C01	Tie ins	P08
Common Gangs	D01	Pipe Lower & Lay	Q01
Site Transport	D02	Pipe Coating / Protection	R01
General Security	D03	Trench Backfill	S01
Fuel & Distribution	D04	Re-grading	T01
Plant Maintenance	D05	Reinstatement	U01
Traffic Management	D06	Permanent Fencing	V01
Haul Roads	D07	Post-Construction Drainage	W01
Road Cleaning	D08	NDT – Non Destructive Testing	X01
Pressure Washing	D09	Radiography	X02
De-watering	D10	Cathodic Protection	X03
Pumping - Water Removal	D11	Hydrostatic Testing & Pigging	X04
Yard Crews	E01	Open Cut Crossings	Y01
Stores Materials excl. PPE	E02	Thrust-boring	Y02
Emergency Crews	E03	Micro Tunnelling	Y03
Safety incl. PPE	E04	HDD - Horizontal Directional Drilling	Y04
Pipe Dumps	E05	Auger Boring	Y05
Environmental	F01	Pipe Jacking	Y06
Contamination	F02	A.G.I Civils	Z01
Piling	G01	A.G.I Pipework - Fabrication	Z02
Site Clearance & Preparation	H01	A.G.I Pipework - Assembly	Z03
Temporary Fencing	I01	A.G.I Electrical & Instrumentation	Z04
Topsoil Strip	J01		
Pre-Construction Drainage	K01		

These codes illustrate the complexity of the cost reporting that can be achieved though it is important to stress the system's dependence on accurate base records. In addition to these codes each resource is categorised by date, location and gang thus producing an extremely clear and accurate record of pipeline operations and expenditure.

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Introduction to the Database System

The Pipeline Cost Control Database is a Microsoft Access '97 based programme. Microsoft Access is a Relational Database Programme which facilitates the creation of databases to varying levels of complexity.

The Pipeline Database System was piloted on the Transco Treales to Burscough 40km 42" Gas Pipeline in 1998/99. The database was crucial to this project as costs exceeded the original tender value by 100%. The following issues were instrumental in the design of the database:

- **The scale of the Project.**
- **The need to quantify Allocations over numerous parameters.**
- **The need for the Employer to satisfy Audit.**
- **The high risk nature of the Project.**

This flexibility enables the Quantity Surveying Department to produce actual cost figures quickly and from various viewpoints without having to repeatedly refer to the timesheets and base records.

The success of the Pipeline Cost Control Database on this project in particular prompted Transco to stipulate the use of this database or similar relational database systems on all major gas pipelines in the UK.

To date there is no alternative specialist pipeline relational database package available to pipeline Contractors and Employers. Transco have recognised the benefits of the detailed cost information provided by the system and the extensive library of cost and project information it provides for budgeting and cost forecasting of major projects.

Clients can now monitor Contractor's costs more efficiently and enter into contracts with greater confidence in the accuracy of budget and out-turn forecasts.

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Company Profile

A. Lamb Associates is a leading Quantity Surveying practice specialising in the Commercial Management of major pipelines around the world. The company has vast experience working for both Employer and Contractor and are a modern and fast growing practice, developing state of the art software packages and cost management procedures to meet the needs of Quantity Surveying in the twenty first century.

A. Lamb Associates has a number of Senior Quantity Surveyors working on major pipelines in the UK as well as surveyors in South America and Europe. The company is seeking to develop work with employers and believes it is in a unique position utilising considerable experience of contract administration and disputes gained with contractors.

Adrian Lamb – Managing Director

Adrian Lamb has worked in the petrochemical and pipeline industry since 1982. Initially with A.B. Rhead & Associates and quickly progressing to senior status. Adrian left A.B. Rhead in 1992 and founded his own practice, A. Lamb Associates, working both nationally and internationally. The company has grown considerably based on commitment, innovation, confidentiality and a strong work ethic. A. Lamb Associates continues to specialise in the commercial management of major pipelines around the world and is highly respected within the industry. A. Lamb Associates have a broad client base including blue chip Employers and Contractors.

A. Lamb Associates is currently managing projects with a total value in excess of $750,000,000 (USD) world wide. Adrian takes a personal interest in all projects and is totally committed to a successful outcome.

Over recent years the company has developed a close association with Mr Daniel Atkinson who heads the International Legal and Arbitration Division of James R. Knowles. Together we have been effective in the resolution of several major disputes. Mr. Atkinson has a regular column in Construction News and is an expert in Construction Law. Further details of Mr. Atkinson's expertise are available at the following web site;

www.atkinson-law.com

We remain at the forefront of modern Quantity Surveying.

A. Lamb Associates

Key Employee Profile

Philip Fryer BSc (Hons)
Commercial Manager

Philip has 20 years experience of international construction projects working on major civil engineering and pipeline schemes world wide. Over the last 10 years Philip has specialised in major international pipelines and is currently working in Bolivia as Commercial Manager on the 600km 24" Santa Cruz – Cuiba Trans Brazilian Pipeline.

Bernard Savage BSc (Hons)
Commercial Manager

Bernard has 20 years experience of national and international civil engineering and major pipeline projects working for Transco and several Major Contractors. Bernard is currently working in Bolivia as Contracts Administrator on the 600km 24" Santa Cruz – Cuiba Trans Brazilian Pipeline.

Philip Hayman ACIOB
Commercial Manager

Philip has 19 years experience of both civil engineering and major pipeline projects. Philip is currently working as Commercial Manager on the 40km 42" Mawdesley – Warrington Gas Pipeline (Transco).

Paul Whittingham
Commercial Manager

Paul has 12 years experience of major pipeline projects in the UK. Paul is currently working as Commercial Manager on the 52km 36" Wormington – Tirley Gas Pipeline (Transco).

Scott Davies BSc (Hons)
Senior QS
(Database Manager)

Scott has worked on several major pipeline projects in the UK and has been a key figure in the development of the Pipeline Cost Control Database. Scott is currently working on the 40km 42" Mawdesley - Warrington Gas Pipeline (Transco) operating the Pipeline Cost Control Database.

Edward Ryan BSc
Senior QS

Eddie has 6 years experience on pipeline and heavy civil engineering projects and is currently working on the Mawdesley – Warrington 40km 42" Gas Pipeline (Transco).

Jeremy Wyke
IT Manager

Jeremy has 8 years experience on pipeline projects and is currently specialising in Information Technology and has the ability to create and install networked systems on site. Jeremy is currently working as network administrator on the Mawdesley – Warrington 40km 42" Gas Pipeline (Transco).

Pipeline Cost Control Database

Know what the contractor has spent as he spends it and on what.

Be aware of potential overspend prior to it occurring.

Monitor the contractors performance.

Negotiate with the contractor on an even basis.

A. Lamb Associates

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A. Lamb Associates

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