

# External Services Pipebridge Assembly

In order to provide services to the new Evaporator D building, a development of cooling towers, sub-stations, compressed air plant, switchroom and diesel generator is being built.

The layout has been designed to minimise impact on road and rail access in the area. This development (approx. 1600 m<sup>2</sup>) is not directly adjacent to Evaporator D and will be linked by a high level pipebridge over one of the main Sellafeld roads.



## Key learning points

- When dealing with the Highways Agency ensure early engagement, workscope is agreed and then continually chase progress
- Agree all individuals roles and responsibilities in advance
- Elongation of connection holes to assist with assembly at height
- Ensure all quality documentation is available, reviewed and approved in advance of dispatch
- Ensure weights of items are accurate before being used in document production
- Maximise much work off-site rather than carrying out prior to lifting at site

### Overview:-

To facilitate the transfer of services from the External Site Services "island" to the Evaporator D building a structural steel pipebridge, fabricated in 12 off separate modules weight from 1.4Te to 34Te, is required.

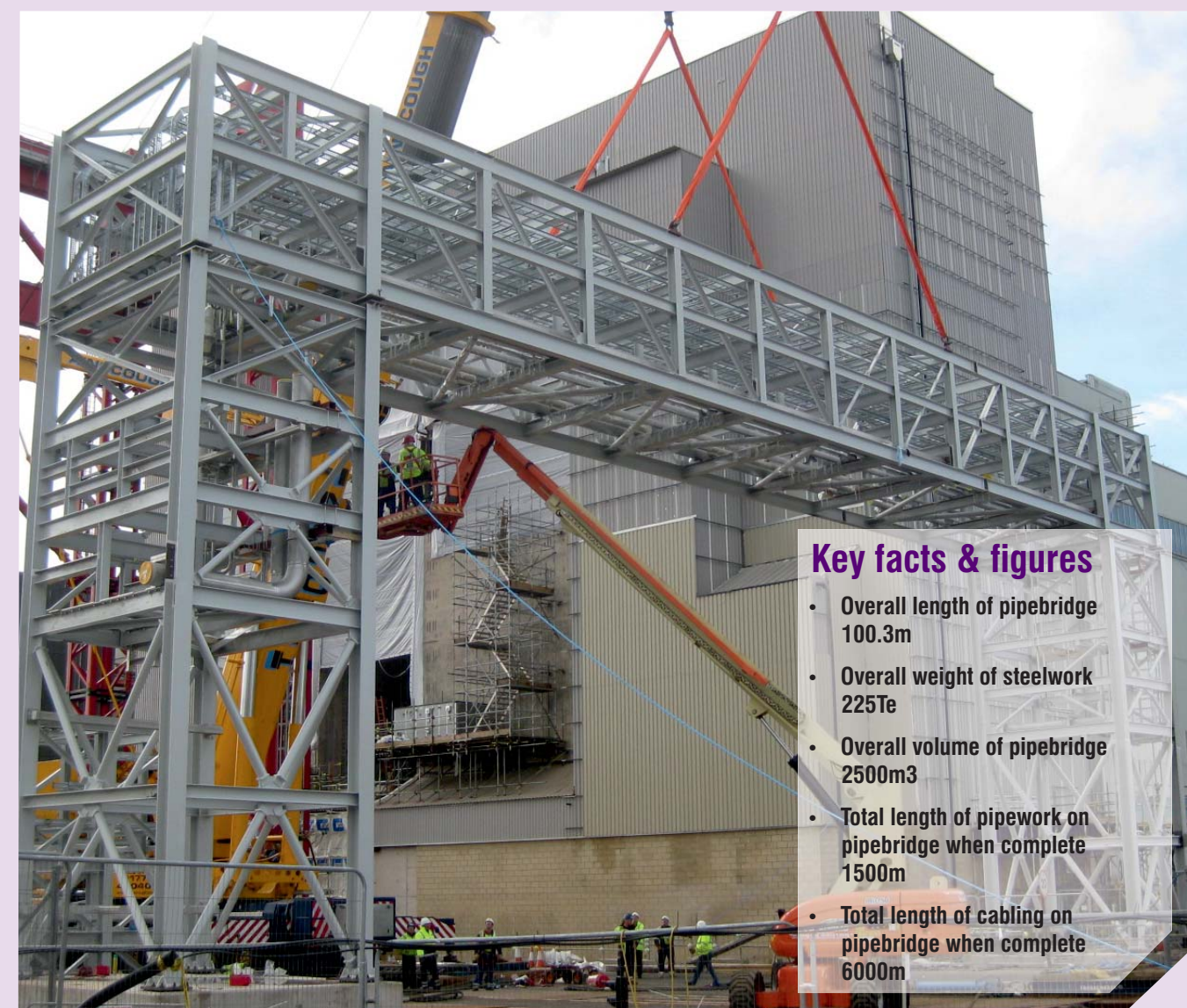
The pipebridge is siesmically designed and site on 6 bases which are piled 27m into bedrock. The installation of the pipebridge will take place in 3 seperate phases with the first phase, modules 1 to 5 spanning the main road and adjacent rail lines, being completed between 22nd and 25th September 2011 using both a 500Te and 100te crane in tandem.

### Challenges:- for phase 1

- to transfer 5 wide loads the 18 miles from assembly facility to the Sellafeld site during a normal working day on single carriageway roads
- changing crane supplier just 2 weeks before the work was planned, with all paperwork in place and approved, due to the original supplier selling their 500Te crane.
- jointing modules 3 and 4 (38m long and weighing 58Te) at ground level using only the hydraulics and multiwheel steer capacity of the transport trailers for alignment.
- topping and tailing leg modules using both mobile cranes and then landing them on 32 off bolts with no hole tolerance.
- placing joined modules 3 and 4, weighing 58Te, ontop of 16m high legs and aligning the 24 off bolt holes at either end with no hole tolerance.

### Companies involved:-

- West Cumberland Engineering - off-site fabrication, pipe spooling, cable tray and assembly
- GCS Johnson - haulage
- Ainscough - crane supply
- Shepley - site installation



### Key facts & figures

- Overall length of pipebridge 100.3m
- Overall weight of steelwork 225Te
- Overall volume of pipebridge 2500m<sup>3</sup>
- Total length of pipework on pipebridge when complete 1500m
- Total length of cabling on pipebridge when complete 6000m

