

WASTE TO ENERGY PLANT

LAUNCHING THE WORLD'S LARGEST CAPACITY TOWER CRANE INTO THE MIDDLE EAST

AT A GLANCE

CLIENT	KEPPEL SEGHERS
PROJECT	WASTE TO ENERGY PLANT
LOCATION	DOHA, QATAR
SECTOR	POWER GENERATION
DATE	2007 – 2009

CRANES	1 X M2480D
ENGINEERS	2
CRANE OPERATORS	2
INSTALLATION CREW	6
MAINTENANCE CREW	2

In 2007, the Government of Qatar awarded a contract to Singaporean-based Keppel Seghers to design and build the world's largest fully integrated waste to energy (WTE) plant. At the same time, the R&D team were designing what would become the world's largest tower crane – the Favelle Favco M2480D. As serendipity would have it, one phone call led to the two projects coming together and our first job for the M2480D in the Middle East. It was a game changing moment for Marr and the heavy lift crane industry.

The phone call came in early 2007. Keppel Seghers was responsible for overseeing the design and construction of four Waste Transfer Stations and an Integrated Domestic Solid Waste Management Centre (DSWMC) to handle and treat domestic solid waste for the whole of Qatar. The AU\$1.8 billion green field site – comprising a waste sorting and recycling facility, landfill, a composting plant and a 1,500 tonnes per day WTE plant – was designed to treat up to 2,300 tonnes per day of mixed domestic solid waste.

THE CHALLENGE

Faced with the challenge of how to lift and install mechanical components within a heavily congested construction area, Keppel Seghers had a tower crane in mind as the solution. What they didn't know was that we had been working on the design for a crane to solve the very same issue.

At the time we saw a market for a super-size heavy lifting tower crane that would supersede the need for big crawler cranes on large-scale construction projects similar to the WTE Plant in Doha. The problem, as we saw it with big crawler cranes was that by taking up a lot of room on the ground, using them often-necessitated shutting large sections of the construction site down.

For us the biggest challenge was launching a new and untested crane in a remote, foreign location. Dealing with local authorities, finding solutions to support the job from the other side of the world and employing suitably skilled crane operators (as the local drivers didn't have the skills required for the crane) were just some of the issues we had to contend with.

THE SOLUTION

We had a vision to build a crane that would double the lifting capacity of our existing M1280D crane – which at the time was the largest tower crane in the world – and had already taken a punt on designing what would become the M2480D when we received the call from Keppel Seghers.

With this project we needed a proven, reliable solution as we knew we could not rely on our existing support network in such a foreign and remote location.

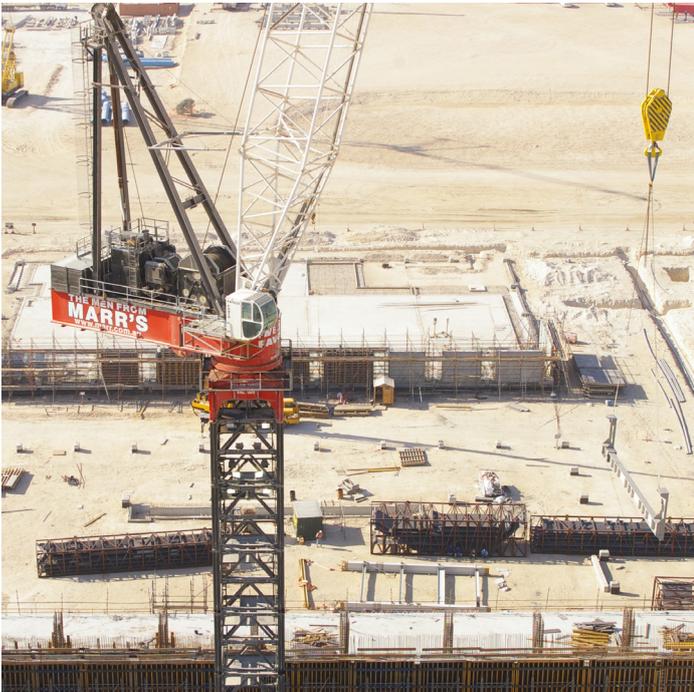
The answer was to deploy our latest innovation – which at a glance may have appeared to be a risky move in sending an unproven crane to such a harsh location. But the reality was that although the crane was new, the product was without peer in terms of reliability and performance.

By May 2008 we had built the M2480D in Australia, engineered a foundation solution into the existing building structure, signed the commercial contract and had begun the shipping process to Doha. To resolve the issue of finding suitably qualified crane operators, we also deployed our own highly skilled operators from Australia.

THE RESULT

With a greater lifting capacity of 330 tonnes, the M2480D took up less room on the ground and eliminated the issue of onsite congestion caused by managing heavy lifts from multiple locations by allowing lifts from the site perimeter.

Eighteen months later, the job was completed without incident or any time lost due to crane downtime. Additionally, we had built a strong demand for the M2480D back in Australia. The result for Keppel Seghers was a 30-50% lift in productivity.

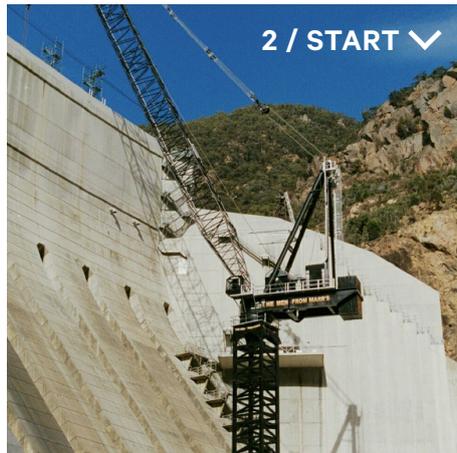




2007: At the time we received a call from Keppel Seghers for help on the WTE plant in Doha, we'd identified a market for something even bigger than the M1280D and were working on the design for the M2480D. It was the perfect, but yet unbuilt and untested, solution for our client's problem. When we built the first M2480D it became a game changing moment for the project – and the heavy lift industry.



In 2007, the Government of Qatar awarded an AU\$1.8 billion contract to Singaporean-based Keppel Seghers to design and build the world's largest fully integrated waste to energy (WTE) plant in Doha. Faced with the challenge of how to lift and install mechanical components within a heavily congested construction area, Keppel Seghers had a tower crane in mind as the solution.



Backtrack to 1999, when Transfield was constructing a hydroelectric power station near Canberra in NSW, Australia and needed a solution for lifting heavy project components over a dam wall. We built the M1280D to do the heavy lifting in one lift, negating the need for the existing 'pass the parcel' series of cranes that were in place. It became the world's biggest tower crane.



MAY 2008: 12-months later we had built the crane in Australia and shipped it to Doha. With the M2480D doing all the heavy lifting from the perimeter of the site, there was no longer any need to shut down parts of the construction site. Productivity increased by 30-50%.



NOVEMBER 2009: 18-months later the WTE was completed and we'd successfully managed the crange operation from the other side of the world without incident or any downtime. The crane returned to Australia scratch-free and with a backlog of orders an additional four M2480Ds either built or under construction.