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“Standard gauge provides much better operating efficiency over that distance,” Lynch said. “We have to build a new line anyhow and this way we can operate at the same level or even higher than many other mines.”

Once the venture is established, Waratah Coal may look at installing a dual-gauge rail line where it crosses the Bowen Basin and allow third-party access to the infrastructure.

To handle the workers that would build the massive rail, port and mine infrastructure, Waratah has learned from other mining projects where workers had to commute for hours at the beginning or end of a shift.

The company has also tackled the question of how to move so many workers to such a desolate part of Central Queensland, with the answer in the form of accommodation and transport facilities built onsite.

“We’re planning to have an airstrip built right next to the camp,” Lynch said.

“And if you have to build a camp, it might as well be near the project. So there won’t be that need for workers to be driving tired.”

Lynch said he would only comment generally on where services to the mine would be sourced from, saying: “With a development of this magnitude, I’m sure many will relocate closer to the site.”

“I imagine there will be mining services from Mackay and Rockhampton – there are

strong engineering bases there and quite a few are set up at Emerald.”

He said once built, China First would reach the 40Mt production milestone soon after. There are plans already in place to hit that rate of production by the end of the operation’s second year.

“We have a very big agreement with China, so we don’t have all that much market risk.”

– Waratah Coal CEO Peter Lynch

“We’re expecting to ramp up quickly,” Lynch said.

He quoted newly-released figures from the US government’s International Energy Outlook 2009 which, he said, showed how strong the electricity generation market would be for the next two decades.

The report from the Energy Information Administration projected a 49% jump in coal consumption from 2006 to 2030 (or from 127 quadrillion British thermal units in 2006 to 190 quadrillion Btu in 2030).

It also stated that “coal-fired generating capacity in China is projected to nearly triple from 2006 to 2030, and coal use in China’s industrial sector grows by nearly 60 per cent”.

Lynch describes such statistics as “pretty amazing stuff”.

“It’s why the Chinese are so keen to open a brand new project in a brand new area,” he said

China First has been given the “State Significance” stamp from the Queensland government. That status is designed to cut down on red tape and speed up the approval process for plans that would benefit the state.

The government and Waratah are working through the Environmental Impact Statement as part of the China First Project’s approval process.

“We’re keen to start construction in the second half of next year,” Lynch said.

“That’s what we’re working towards.”

“We’ll be out there for a while so we’re pretty well prepared.”

Waratah also is planning further developments in the Galilee with proposed tenements for 15,250 square kilometres and inferred resources beyond 4.3 billion tonnes.

“Obviously the resource has been expanding,” Lynch said.

“We’re focused on this project here; it will keep us busy but watch this space.” **AMM**



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1: TechSpan® precast concrete arch segment.

2: Base slab unit.

3: Site preparation.

4: TechSpan® arch, backfill in progress.

5: TechSpan® arch, construction nears completion.

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RECO installs precast tunnels for Rio Tinto

PREFABRICATED construction systems business Reinforced Earth Company first introduced the TechSpan precast concrete arch system to Australia in 1989.

Since then TechSpan arches have been held in high regard by the mining industry.

TechSpan is a three-pin, two-piece, funicular curve-shaped arch that has been used for reclaim conveyor tunnels below coal and iron ore stockpiles.

RECO recently supervised the installation of a 130m precast concrete conveyor tunnel and a 180m transport drift tunnel for Rio Tinto's Kestrel coal mine in the Bowen Basin.

The company's involvement in the tunnel installations included the design and supply of precast TechSpan arches and associated precast concrete footing slabs.

"Rio Tinto was particularly interested in our total pre-cast option so we provided the base slabs in pre-cast format and delivered them and installed them," RECO operations manager James Bye told *Australia's Mining Monthly*.

The company designed the precast footing slabs to accommodate the variable foundations present over the length of the declining tunnels.

The footings needed to be particularly robust at the lowest depths, where the fill height above the arch reached 20m.

To allow practical transportation from the precasting facility of BB&D Constructions at Rockhampton, the footing widths needed to be limited to 1.1m with a weight of 25 tonnes.



One of the arch units being installed at Rio Tinto's Kestrel coal mine in the Bowen Basin.

"These precast arches are very highly detailed and very accurate, precise pieces," Bye said.

The grade and depth of the fills meant shear connections between arches and bases were necessary at lower depths in order to maintain longitudinal stability of the arch units.

"There were a few challenges involved in the installation," Bye said.


"These included the steepness of some of

the slopes and the pre-cast slabs that were put down."


RECO used a crane to install the arch units with the arches placed directly opposite each other. Starting at the low end of the tunnel, the first unit was held in position on a temporary frame until the second, directly opposing, unit was positioned.

The completion of the two tunnels required RECO to use nine types of base slabs and 21 different arch types. - **Wally Graham**

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