Rail Alignment Considerations

Environmental, Aboriginal heritage and geotechnical studies are being conducted on the rail feasibility corridor, which passes through a number of mid-west shires, freehold land parcels and pastoral leases. The outcomes of the feasibility works will provide OPR with information needed to nominate a route for the rail corridor; and will provide the information needed for the Government to recommend a route for the railway.

The recommended alignment will consider technical, environmental and social factors including:

- environmentally sensitive areas;
- rare and endangered flora and fauna;
- hills and rivers; and
- towns, communities, houses and homesteads.

OPR, with support from the Government, aims to minimise impacts and disruption to people and their properties, and provide a safe and efficient route to port for mid-west miners.

The narrow gauge railways built in the late 19th and early 20th century in the mid-west were different in purpose, design standards and operations from the heavy haul iron ore railway proposed to connect mid-west mines to a port at Oakajee. The narrow gauge rail lines, including those east of Mullewa that are now disused or have disappeared, were built to light rail standards. They were partly for carriage of relatively small tonnage exports and for goods and passenger services.

These old railways “connected the dots” between towns. Built before the age of mechanised construction equipment, these railways were designed to minimise earthworks and included relatively steep grades and sharp curves not suitable for modern heavy haulage rail systems.

Iron ore railways are engineered to transport bulk iron ore efficiently and safely, and are highly optimised to minimise the cost of construction and the operation, thus maximising the viability of the new mines.

Heavy haulage railway requires specific design features including having a gradient near to flat (only a rise of 3.5m for every kilometre for the loaded train) and curves must be broad (a minimum radius of 1000m preferred), to allow trains of up to 200 ore cars to operate safely and efficiently.

The existing narrow gauge routes, such as that from Narngulu to Mullewa and Perenjori are unsuited to a modern heavy haul railway. The grades are 4-6 times steeper, and curves four times tighter than required for the iron ore railway.

Environmental and social considerations also require that railway locations consider proximity to townships, noise impacts, amenity and safety and the recommendation is that heavy haulage rail systems are kept away from towns wherever possible.

Ends: November 2009