

Bluebird on track with heavy lift wagons

By Alan Scheckenbach



Defence had a problem—how to move up to 16, 60-tonne Abrams tanks through the centre of Australia efficiently and cost-effectively. Part of the solution came from the National Rail Network that links Darwin and Port Augusta. This network is of strategic benefit for logistics transportation.

With the way resolved, Joint Logistics Command's Strategic Logistics Branch set about devising the means. As moving tanks is a seasonal activity, Defence wanted to avoid the cost of owning purpose-built stock that would sit idle for most of the year.

In September 2007, an open tender process resulted in Bluebird Rail Operations being contracted to supply heavy lift rail flat cars capable of carrying the Abrams family of tanks and a carriage for transporting ADF members providing escort duties for the vehicles.

The Bluebird proposal for Defence involved the upgrade and lease back of specialised wagons on a priority basis, subsequently reducing Defence's overheads in terms of technical expertise and management. As the wagons are expected to only be used for tank movements for four to six weeks every year, they can also be used by rail operators for moving heavy freight at other times. This strategy allows the wagons to be used productively, not deteriorating whilst sitting idle in a siding and could help recoup Defence's investment over the life of the wagons.

The solution to Defence's heavy-lift rail requirements was to heavily modify sixteen existing rail wagons and remanufacture one goods van into an industry-standard crew coach. Modification, in comparison to new construction saved Defence a significant amount of money.

The wagons were transferred from Goulburn to Bluebird's Adelaide workshops for stripping down. The decks were shortened at either end and a four-metre section cut out of the centre. The two halves were welded back together and additional stiffeners added. Meanwhile, heavy-duty drawbars and supporting structures were welded into either end. A series of substantial tie-down points and tie-down equipment storage slots were created below the level of the deck, presenting a flat surface for the tanks to sit on and leaving no obstructions to be damaged by containers or other freight. New ratchet-type tie-down devices and high-grade chains were fitted to hold the tanks in place.

Concurrently, the bogies were reconditioned and brought to high-speed freight specifications, allowing the completed wagons to travel at speeds of up to 115 km ph when not carrying tanks.

The crew coach, formerly a mixed goods van designed to carry mixed freight, accommodates a conductor and a dog-box. The van was gutted, exterior repaired and the load-bearing spine of the undercarriage strengthened with steel plating to a standard that would allow it to be used as part of a freight train. The interior was then fitted out

with a generator room, full kitchen, hot and cold running water, an entertainment area with table, chairs, TV, DVD player, external security all-weather monitoring system, toilet, shower and six separate bunk rooms - each with reverse-cycle air-conditioning.

The tests gave both parties the chance to review how well everything worked together and some modifications were suggested to increase loading and unloading efficiency. The most significant was a request to provide a number of lifting beams that would allow a single crane lift of a travel ready M1A1 Abrams. Having the tanks in travel ready configuration, with the turret at six o'clock, means a significant saving in loading and securing time and manpower as the turret does not have to be traversed in possibly congested environments. Bluebird has sub-contracted Bullivants - an acknowledged expert in the field of lifting equipment - to provide these beams.

The tests also indicated that the crew coach should be modified to accommodate ten persons - nine ADF security personnel and a rail company train manager - instead of the original six. A final request of Bluebird was to supply a suitable training simulation tool so that ADF members could learn the correct methods of securing particular vehicles to rail wagons. The simulator - the flat deck of a condemned wagon - has tie-down points for both the heavy lift wagons and standard vehicle carrying wagons. It will be situated inside Robertson Barracks where vehicles can be driven on to it and personnel can practice tying them down.



“As moving tanks is a seasonal activity, Defence wanted to avoid the cost of owning purpose-built stock that would sit idle for most of the year”

In late January 2008, the crew coach and three wagons were formally handed to Defence in a ceremony that also named the crew coach in honour of Major General J.D. Stevenson AO, CBE. MAJGEN Stevenson's wife and one of his daughters were present, and Mrs Stevenson cut a ribbon at the coach's entry as part of the dedication ceremony. MAJGEN Stevenson was honoured for his post-retirement dedication to lobbying for the building of the Alice Springs to Darwin railway.

In mid-April 2008, a successful in-service test was carried out from Darwin, where two completed wagons, carrying an M1A1 Abrams and an M88A2 Hercules and the crew coach were taken to Union Reef Siding, about 200km south of Darwin, to prove the safe operation of the wagons, the tie-downs and the security system.

All wagons were completed and handed over in early June 2008, ahead of schedule and within budget.

ABOVE: One of the first "rail-parties" from 1st Brigade to use the new crew van named after Major General Stevenson have their photo taken with the carriage at Berrimah Railwayard prior to departure for South Australia.

RIGHT: Local railyard workers guide the axis of an M1A1 Abrams Tank from the 1st Armoured Regiment as it is aligned for placement onto purpose-built rolling stock at Berrimah Rail Yard in the Northern Territory during final trials of the tank's new rail transport cart. *Photos: Gunner Shannon Joyce*

