

EMU Project Update

Glossary

Auckland Transport	(AT)
Construcciones y Auxiliar de Ferrocarriles	(CAF)
Electric Multiple Unit	(EMU)
EMU Project	(Project)
KiwiRail	(KRG)

Executive Summary

The purpose of this report is to provide the Board with an update regarding the Project progress in the last quarter, current status and an overview of the programme for the next three months.

Recommendations

It is recommended that the Board:

- i). Receive the report

Programme and Progress

Current Status

The Project is currently 70% through the design phase, with manufacturing of the long lead items just commencing. The Project is on programme generally and slightly ahead in some areas of production.

The Project lifecycle is divided into three key phases, Design, Manufacture and Test, and Commissioning. The design stage itself subdivides into 3 phases, these being Concept Design, Intermediate Design, and Critical Design. The project completed the Intermediate Design stage in August 2012 and is now moving into the Critical Design stage. This stage completes the detail of the design, finalises all the systems' functionality and produces the test, inspection and manufacturing information for the vehicle production. The design is ahead of programme in some areas and slightly behind in others. Such variation is to be expected at this stage.

In parallel with the design activities, the manufacturing of the first vehicle bodyshell and bogie has commenced. Photograph 1 in Attachment 1 shows the first half of the first vehicle chassis being assembled in the production jigs, ready for welding. This is approximately 2 weeks ahead of programme and has benefitted from some work being continued throughout CAF's factory's annual shutdown in August. The quality of the welding jigs and the care which is being taken by CAF demonstrate their experience and capability in vehicle production.

CAF have progressed from contract award to commencing production of the first vehicle in 11 months. This is a significant achievement, particularly for a vehicle which is truly bespoke, and is testament to the experience of CAF and their development of standard techniques and processes for vehicle production.

Mock Up 3, a full size model of half a vehicle, is now at MOTAT and will be on public exhibition shortly. The Mock Up has been housed in a very suitable exhibition hall with good access and complete protection from the weather. Attachment 1 includes a photograph of the Mock Up in its new home.

Lander, a subsidiary of CAF, has commenced work on the Driver Training Simulator and has been provided with a great deal of information relating to the layout and design of the Auckland rail network. This information allows them to commence the design of the visual simulation. Lander are also working with CAF regarding the functionality and layout of the simulator, to ensure that the simulator accurately reflects the train design.

Three Month Look Ahead

The next three months will see the finalisation of the design and increasing production activity. Equipment for the EMUs will start to be delivered to the CAF factory as the production and assembly of the first EMUs gets underway.

The first vehicle bodyshell, due to be finished at the end of November, will be painted in December before moving to the production line for assembly to commence early in January.

During September and October, the Project team will be strongly represented at the CAF factory in Spain, reviewing the design as it finalises and undertaking witnessing of tests and inspections. This approach will ensure the design progresses to completion with a minimum of rework and will minimise the expected iterative submission/review/comment process for design information which can be very time consuming. A formal review and close out of the design will be held in November.

Whereas the basic design is already frozen in many key areas, September and October will see the final areas of design locked down. This is necessary if CAF are to meet their contractual timescales. Any changes in requirements after this time are most likely to carry cost and programme implications.

Lander personnel are programmed to visit Auckland in early October to meet with the Veolia training manager and the Project team. Lander will video the entire network, as seen from a driving cab, amassing as much information as they need to produce the high quality images that are projected onto the simulator screen. They will also learn how the network is operated and discuss with Veolia how they wish to integrate the simulator into the driver training process.

Future Milestones

The following key milestones relate to this Project;

Milestone	Contract Date
Completion of the Design	December 2012
Approval to Ship, 1 st EMU	28 June 2013
EMU arrival Auckland/Testing	30 August 2013
Hand over to Auckland Transport, 1 st EMU	30 November 2013
Hand over to Auckland Transport of the 57 th EMU	30 July 2015

A summary project programme is provided as Attachment 2.

Financial

The Project continues to progress within budget and no exceedences are anticipated.

Resources

The Project Team has a core of eight staff, including one based in the CAF factory in Spain, and is supplemented from time to time by external specialists who provide particular knowledge and/or capability. The team has several alternative sources for the specialist support and there is sufficient capacity available to meet the Project's needs going forward.

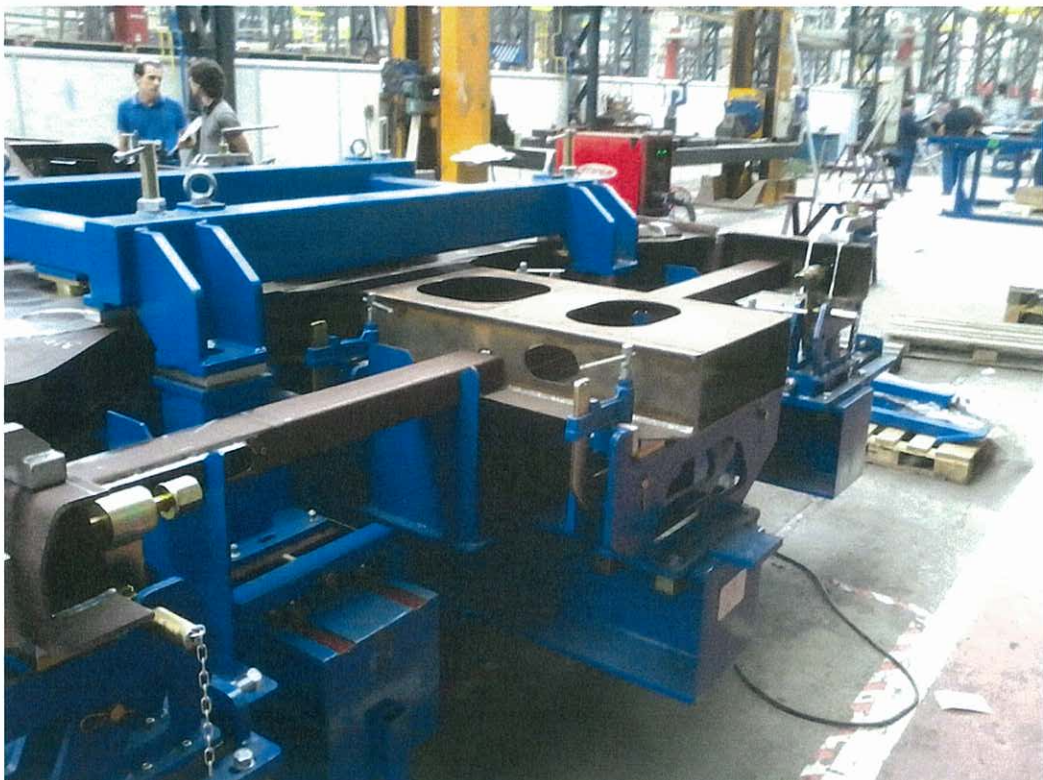
Attachments

Attachment 1 Progress photographs

Attachment 2 Project Programme

WRITTEN BY	Tom Salt EMU Project Director	
RECOMMENDED BY	Claire Stewart Corporate Manager Special Projects	
APPROVED FOR SUBMISSION by	David Warburton Chief Executive	

Progress Photographs



Figs 1 and 2: The first vehicle underframe being assembled

Fig 3: The Mock Up on display at MOTAT



