NEW EQUIPMENT & SYSTEM APPROVAL PROFORMA

Ref: *08-08-11-098*

Note: the prompts given below are only a guide to the information required for approval. Dependent on the type of equipment or system that requires approval delete any section that is not applicable or include additional information if necessary. Mandatory fields are marked with an asterisk (*).

1 **Equipment or System to be approved** *

Steel Bearers for Siemens S700k & S700V Point Motor System

2 **Originator** *

Name: Jay Jayakumar (Project Manager) Company: ARTC / VAE

3 **Introduction** *

The system consists of two steel bearers incorporating the switch machine and switch operating rodding inside the bearers.

4 **Determination of Need** *

The system is incorporated in 60kg concrete bearer turnouts.

The system is an improvement on current practice as it allows access to the complete turnout for tamping, both for construction and maintenance.

5 **Significant Change or Not** *(as determined by the Manager Standards)* *

This change in equipment or system is assessed as Minor

6 **Review Panel** *(as determined by the Manager Standards)* *

- John Furness - Manager Standards
- Tim Calver – Standards & Technical Services Engineer
- Ian Domleo – Senior Track & Civil Engineer

7 **Safety**

The design was carried out by VAE Railway Systems Pty Ltd, based on similar installations in Europe.

8 **Performance and Suitability**

The following documents submitted by VAE (see attached) confirm the suitability of the design for ARTC conditions

- Assessment of in-bearer sleeper incorporating in-bearer finite element analysis for the in-bearer with 35 tonne axle loads and 12 million cycles per annum.
- Installation and mounting instructions for the in-bearer assembly
- Hazard analysis for RailCorp in-bearer
- Layout drawing of the in-bearer assembly and associated pack.

(i) **Use in other rail networks**

Rio Tinto (Pilbara Iron formerly Hamersley) 36t axle load, RailCorp.

Bearers of similar design are being used in high speed (250km/h) lines in Austria, Germany and Switzerland

(ii) **Use in the ARTC network**

Very similar bearers have already been approved by ARTC for use with wayside equipment installation
(Refer New Equipment and Systems Approval 08-08-11-035 Hollow Steel Sleepers for Wayside Equipment Installation)

(iii) **Issues arising from usage of the equipment/system**

N/A

(iv) **Changes required to infrastructure or systems for use of the equipment**

N/A

9 **Reliability**

N/A

10 **Maintainability**

More readily maintainable than current practice.

11 **Approval** *

This approval covers the installation of VAE steel bearers to VAE drawings VAM 13576 and associated componentry for installation in 60kg tangential turnouts with vertical rail 1435mm gauge.

The system may be installed in all areas of the ARTC network, where VAE tangential turnouts are, or have been installed.

12	**Conditions of Approval** * • Type approval restricted for use on ARTC tangential turnouts with KGO Switch Assembly manufactured by VAE Railway Systems. • The front of the turnout including the two steel bearers shall be laid on full depth, thoroughly compacted good quality ballast. • The steel bearers be inspected in detail 4 weeks after installation by a competent track worker.						
13	**Does the Originator accept the additional Conditions of Approval as set by the Review Panel:**	Yes	☐	No	☐	N/A	☐

14	**Sign off**			***ARTC office use only***
	Review Panel:			
	John Furness		Date:	3/1/08
	Tim Calver		Date:	3/1/08
	Ian Domleo		Date:	3/1/08