

PART D

TECHNICAL REQUIREMENTS

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D1. SCOPE OF WORK GENERAL

The State Rail Authority of New South Wales (the Authority) intends to dispose of up to twenty-three (23), PAXMAN 12RP200L (Valenta) engines that are no longer required for the XPT Power Cars. The Authority has selected the PAXMAN 12VP185L engine to replace the current Valenta and a program is underway to re-engine the XPT Power Car fleet.

In addition to the disposal of the Valenta engines, the Authority intends to dispose of surplus spare parts and tools that are used solely for the maintenance and overhaul of the Valentas.

Although some engines are available for sale and immediate removal by the Contractor, others will be made available as described in the Schedule listed in DA2.

The Contractor shall thoroughly familiarise itself with the contents of the Specification, prior to performing any work under this Contract. In addition, the Contractor shall satisfy itself as to the condition of the engines. No information provided by the Authority, can be used in ascertaining the appropriateness of the future use of the engines.

D2. ENGINE SCHEDULE

D2.1 The Valenta engines are currently being replaced with VP185 engines at the site of A. Goninan & Co. Ltd (Goninan) in Newcastle. As part of the re-engining project Goninan are required to store the Valentas for a period of time after each engine conversion. The program for engine conversions is shown in Appendix DA1. The Contractor shall note that the Authority reserves the right to delay making engines available to the Contractor if they are needed for replacement in the balance of the XPT fleet not yet converted.

D2.2 The first conversion took place in June 2000 and the last of the nineteen (19) conversions is expected to be complete by April 2002. However, the conversion program may be accelerated and be completed earlier by several months.

D2.3 The Authority shall retain the spare parts and tools until such time as the last of the nineteen (19) conversions is completed.

D2.4 The Contractor shall confirm its schedule for the removal of all items as listed in the tender schedules, with respect to actual engines allocated / contracted, within three (3) weeks of award of the Contract.

D3. TRANSPORT

The Contractor shall be responsible for the cost of transport of the Valentas and associated spares and tools from both the Goninan site and the XPT Maintenance Centre, Sydenham, as applicable. The schedule of items for disposal in Appendix DA2 details where the items are expected to be located for pick-up by the Contractor. The Contractor shall liaise with the Authority and Goninan to lift the Valentas and to transfer the engine lifting frames between the premises of each party for the purposes of transport, in order to minimise any effect on this Contract and the existing re-engine contract. In all situations, the Contractor shall report to site office prior to loading engines.

The ownership of the engines and other items will transfer to the Contractor when the items are placed onto the Contractor's delivery truck at the location where the items are picked up. The insurance of the Authority and Goninan for the items being picked up will cease at this point. The Contractor shall ensure and demonstrate that it has adequate insurance cover for the items to cover the loading on the truck and transport beyond the gate of either the Authority's and Goninan's premises.

D4. ENGINE SPECIFICATION - GENERAL

D4.1 The PAXMAN 12RP200L Valenta engine specification is shown in Appendix DA3. This specification is as supplied to the Authority by the original manufacturer. The Contractor shall note that several modifications and repairs have been performed on the engines.

D4.2 The Contractor shall note that the Valenta engine as used on the XPT Power cars have the following configurations:

- Recessed Top Deck

D4.3 The Engine speed control settings are set to give five power throttle notches and idle as follows:

Throttle Notch	Engine Speed RPM
Idle	750
1	750
2	1000
3	1145
4	1350
5	1500

D4.4 For these Valenta engines the Authority has purchased and used distillate fuel oil to Australian Standard No: AS3570 – 1998 – Automotive Diesel Fuel.

D4.5 For these Valenta engines the Authority has purchased and used lubricating oil grade SAD40.

D4.6 For these Valenta engines the Authority has purchased and used Engine Cooling System Treatment supplied as PAXCOOL, in a mix of 50%.

D5 ENGINE ACCESSORIES AND ASSOCIATED EQUIPMENT

For each engine, the Contractor shall note that there may be some missing and defective parts. The Contractor shall fully inform itself of the condition of each engine prior to submitting an offer under this Contract.

For the avoidance of doubt the items described in Clauses D5.1 to D5.8 shall **not** be included in the items for disposal. Items described in Clauses D5.9 to D5.11 shall be included in the items for disposal.

D5.1 The main alternator shall **not** be included in the items for disposal.

D5.2 The exhaust silencer shall **not** be included in the items for disposal.

D5.3 The air inlet filtration frame and ducting shall **not** be included in the items for disposal.

D5.4 The cooler group and associated pipework shall **not** be included in the items for disposal.

D5.5 The lubricating oil filter and associated pipework external to the Valenta shall **not** be included in the items for disposal.

D5.6 The cardan shaft shall **not** be included in the items for disposal.

D5.7 The Starter Motor and Start Repeat Relay shall **not** be included in the items for disposal.

D5.8 The fuel lift pump and pre-lubrication pump shall **not** be included in the items for disposal.

D5.9 The anti vibration (cushy foot) mounts (one set per engine) shall be included with the items for disposal.

D5.10 The Regulators Europa governor (one per engine) shall be included with the items for disposal.

D5.11 The Napier turbocharger (one per engine) shall be included with the items for disposal.

D6 SPARE PARTS

The Authority intends to dispose of spare parts that are used solely on the Valenta engines. A schedule of spare parts for disposal shall be issued following the site inspection. These parts will become available when the last Valenta engine is removed from service.

D7 TOOLING

The Authority intends to dispose of tools, including lifting and transport frames that are used solely on the Valenta engines. A schedule of special tools for disposal shall be issued following the site inspection. These tools will become available when the last Valenta engine is removed from service. However the Authority will make available lifting frames for the purposes of lifting items and engines onto the Contractor's truck for any items to be picked-up prior to the last Valenta being removed from service.

D8 INSPECTION OF ENGINES AND SPARE PARTS AND TOOLS

The Authority shall convene a site inspection at both the Goninan site and the XPT Maintenance Centre on a date to be nominated.

Some of the crankcase covers will be removed to facilitate this inspection if required. The Contractor shall note the engine history and most recent condition prior to removal from the Power Car as shown in Appendix DA2. It is noted that the Contractor has relied upon its own investigations as to the condition of the engines and their appropriateness to their intended future use.

The engines currently at Goninan are stored on wooden frames (as used to transport the VP185 engines from the UK to Australia) that will also be included with each engine. Two photographs of the current storage arrangements at Goninan are shown in Appendix DA4, for information.

APPENDIX DA1

SCHEDULE OF POWER CAR CONVERSIONS TO VP185 ENGINES

Separable Portion - Power Car	Power Car Scheduled to Goninan	Power Car Scheduled from Goninan	Comment on current location of Valenta
SP1 XP2016	01-May-00	26-Jun-00	Sent to XPT Centre for investigation
SP2 XP2006	07-Jun-00	12-Jul-00	A. Goninan & Co. Ltd - Newcastle
SP3 XP2015	29-Jun-00	02-Aug-00	A. Goninan & Co. Ltd - Newcastle
SP4 XP2017	17-Jul-00	18-Aug-00	A. Goninan & Co. Ltd - Newcastle
SP5 XP2000	07-Aug-00	08-Sep-00	A. Goninan & Co. Ltd - Newcastle
SP6 XP2018	21-Aug-00	22-Sep-00	A. Goninan & Co. Ltd - Newcastle
SP7 XP2003	12-Sep-00	18-Oct-00	A. Goninan & Co. Ltd - Newcastle
SP8 XP2009	25-Sep-00	22-Dec-00	A. Goninan & Co. Ltd - Newcastle
SP9 XP2001	23-Oct-00	06-Feb-01	A. Goninan & Co. Ltd - Newcastle
SP10 XP?	15-Jan-01	04-Apr-01	In service as of 13/12/2000
SP11 XP?	13-Feb-01	09-May-01	In service as of 13/12/2000
SP12 XP?	09-Apr-01	04-Jul-01	In service as of 13/12/2000
SP13 XP?	11-May-01	01-Aug-01	In service as of 13/12/2000
SP14 XP?	06-Jul-01	25-Sep-01	In service as of 13/12/2000
SP15 XP?	03-Aug-01	24-Oct-01	In service as of 13/12/2000
SP16 XP?	27-Sep-01	18-Dec-01	In service as of 13/12/2000
SP17 XP?	26-Oct-01	23-Jan-02	In service as of 13/12/2000
SP18 XP?	20-Dec-01	20-Mar-02	In service as of 13/12/2000
SP19 XP?	25-Jan-02	22-Apr-02	In service as of 13/12/2000

Notes:

1. In general the earliest that an engine may become available is two weeks after the Power Car is scheduled to Goninan.
2. The spare and other failed engines at the XPT Centre may become progressively available from SP15 onwards depending on the requirements of the XPT Centre.
3. Note : The term, Separable Portion (SP) has been used in the existing re-engining contract to distinguish the power cars. There are no Separable Portions designated with this tender.

APPENDIX DA2

SCHEDULE OF ENGINES FOR DISPOSAL

Item No.	Engine Serial No.	Power Car	Date Installed or Location if not installed on Power Car	Date Removed	Engine Hours	Status
1	780009/6 *	XP2004	XPT Centre	1/1/99	5704	A3 broken conrod. Block damaged.
2	780006/15A *	XP2001	XPT Centre	4/11/99	11674	++ B6 Piston failure. Tested OK.
3	780000/16A	XP2009	XPT Centre	8/12/99	16930	B1 Cracked liner seat.
4	790002/1A	XP2011	XPT Centre	19/12/99	10923	Spun B5 bearing. Crankshaft damage.
5	780009/4A *	XP2009	XPT Centre	18/4/00	807	+ A6 piston & A5 exhaust rocker failure.
6	790002/2	XP2006	Goninan Newcastle	5/6/00	20182	Replaced with VP 185.
7	780000/23 *	XP2015	Goninan Newcastle	30/6/00	16896	Replaced with VP 185.
8	970000/9 *	XP2017	Goninan Newcastle	16/7/00	17410	Replaced with VP 185.
9	980000/2	XP2000	Goninan Newcastle	7/8/00	14214	Replaced with VP 185.
10	910000/10 *	XP2018	Goninan Newcastle	20/8/00	11859	Replaced with VP 185.
11	780009/14A *	XP2003	Goninan Newcastle	12/9/00	9664	Replaced with VP 185
12	970000/3	XP2009	Goninan Newcastle	25/9/00	14212	Replaced with VP 185
13	780009/12 *	XP2001	Goninan Newcastle	23/10/00	12513	Replaced with VP 185.
14	780000/11A *	XP2002	12/11/99			In Service
15	920000/6 # *	XP2004	21/1/99			In Service
16	960000/6 # *	XP2005	17/8/99			In Service
17	780009/7 *	XP2007	31/10/99			In Service
18	790004/1 # *	XP2008	17/2/99			In Service
19	780009/13 *	XP2010	26/9/99			++ Note Failure week ending 6/12?
20	790004/3 *	XP2011	30/12/99			In Service
21	790004/2 *	XP2012	23/7/99			In Service
22	780009/9A *	XP2013	22/6/99			In Service
23	980000/10	XP2014	31/3/99			In Service

Notes:

- * Indicates blocks with liner seats ground in engine shop.
- # Indicates engines with non greasable Vulcan couplings fitted.
- ++ Engines may be swapped as of 6/12/00 - (to verify with XPT Centre)
- + The failed engine from XP2009 in April 2000 was swapped into XP2016 for the first conversion at Newcastle. This same failed engine was returned to XPT Centre for Investigation. Hence the above table does not record an engine being removed from XP2106.
- Engines run approximately 6500 hours per year on average.
- Engine serial numbers are based on crankcase manufacture date. The components within that particular engine may be of a different manufacture date than the crankcase.

APPENDIX DA3

PAXMAN 12RP200L VALENTA ENGINE

General Description / Specification

APPENDIX DA4

PHOTOGRAPHS

PAXMAN 12RP200L VALENTA STORAGE AT GONINAN



Valenta engines stored at Goninan as of 01/12/2000.