

ANNEXURE I

ANNEXURE B

## SPECIFICATION:

**“MATHWORKS (MATLAB & SIMULINK) SOFTWARE  
OR SIMILAR/EQUIVALENT”**  
**SOFTWARE LICENSE AVAILABILITY  
AND DATA MANAGEMENT  
INCLUDING THE PROVISION OF  
SOFTWARE MAINTENANCE AND SUPPORT  
FOR ENGINEERING SOFTWARE  
REQUESTED BY TRANSNET ENGINEERING**

REVISION 0

DATE RELEASED

**(05 June 2023)**

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Document Name: Specification for Software License Availability and Data Management including the provision of Software Maintenance and Support for Engineering Software.

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## CHANGE CONTROL

Control	Name and Designation	Signature	Date
Subject Matter Expert & Compiled	Chrey Mahendra Sookha Senior Engineer R&D Software Systems		07 June 2023
Reviewed & Approval	Jonathan Solomon Principal Engineer R&D Software Systems		07 June 2023
Supply Chain Management: Governance Compliance Approval			

## LIST OF REVISIONS

Rev	Date	Responsible person	Description	Classification

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## DISTRIBUTION LIST

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All tenderers	

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Supply Chain Management: Procurement Manager	
Supply Chain Management: Procurement Officer	

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## 1.0. PURPOSE

Transnet Engineering (TE) seeks that the following be provided, either by the principal software developer or an authorized local reseller appointed by the respective principal software developer;

- Software license availability and data management for the requested engineering software including the provision of annual Software Maintenance and Support.

## 2.0. REQUIREMENTS

### 2.1. Description of Required Software Package availability

A description of the software package appears under Appendix A.

### 2.2. Annual Software Maintenance and Support

The requirements for annual Software Maintenance and Support are detailed under Appendix B.

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### 3.0. APPENDICES

#### APPENDIX A: DESCRIPTION OF THE REQUIRED ENGINEERING SOFTWARE:

NAME OF CURRENT SOFTWARE:	MathWorks (MATLAB & Simulink)
<b>Please note that any equivalent or similar software product may be offered to comply with this tender</b>	

DESCRIPTION OF SOFTWARE REQUIREMENTS:
<p>Software packages must be licensed to have the capability, functionality and benefits as required and specified below:</p> <p><b><u>Supplier Status</u></b></p> <ol style="list-style-type: none"> <li>1. Document from principal software developer confirming if the tenderer is a "Principal Software Developer" / "Sole Distributor" / "Approved Reseller":<ul style="list-style-type: none"> <li>• It is <b>mandatory</b> that a document confirming that the tenderer is the principal software developer or authorised by the principal software developer as a sole distributor/approved reseller for South Africa for all the proposed software is submitted with the tender. In the case of an authorised sole distributor/approved reseller, the document must also clearly state if authorisation is renewable and if so, the next renewal date as well as associated period of authorisation must be indicated.</li> </ul></li> </ol>

## Engineering Software Requirements

2. All proposed software must comply to similar/equivalent technical capability, functionality and benefits of the existing software as utilised in Transnet Engineering

- Tenderers must provide documented evidence that the proposed software has similar /equivalent technical capability, functionality and benefits of the existing software as utilised in Transnet Engineering. (This includes similar/equivalent standard features, embedded and special functionalities). Key requirements are listed as follow:

Number	Key technical capability, functionality and benefits utilised in Transnet Engineering
1	MATLAB software is a multi-paradigm programming language and numeric computing environment - developed by MathWorks in the USA - and is used primarily by TE's R&D Electrical Software section for matrix manipulations, implementation of algorithms, creation of user interfaces, and interfacing with programs written in other languages.
2	Simulink software is a MATLAB-based graphical programming environment for modeling, simulating, and analyzing multidomain dynamical systems. Its primary interface is a graphical block diagramming tool and a customizable set of block libraries.

- The existing software modules as identified by the original software developer as well as the quantities currently in use at Transnet are listed as follow:

Number	Original Software Developer Identification	Quantity
1	12 months MATLAB (Individual) Software Maint Service, Product Code: CMLIR	5
2	12 months MATLAB (Designated Computer) Software Maint Service, Product Code: CMLDR	5
3	12 months MATLAB (Concurrent) Software Maint Service, Product Code: CMLCR	1
4	12 months Simulink (Individual) Software Maint Service, Product Code: CSLIR	5
5	12 months Simulink (Designated Computer) Software Maint Service, Product Code: CSLDR	5
6	12 months Control System Toolbox (Individual) Software Maint Service, Product Code: CCTIR	2
7	12 months Control System Toolbox (Designated Computer) Software Maint Service, Product Code: CCTDR	2
8	12 months Data Acquisition Toolbox (Individual) Software Maint Service, Product Code: CDAIR	2
9	12 months DSP System Toolbox (Individual) Software Maint Service, Product Code: CDSIR	1
10	12 months Embedded Coder (Designated Computer) Software Maint Service, Product Code: CECDR	1
11	12 months MATLAB Coder (Designated Computer) Software Maint Service, Product Code: CMEDR	1
12	12 months MATLAB Compiler (Designated Computer) Software Maint Service, Product Code: CCODR	1
13	12 months MATLAB Compiler SDK (Designated Computer) Software Maint Service, Product Code: CMJDR	1
14	12 months Parallel Computing Toolbox (Designated Computer) Software Maint Service, Product Code: CDMDR	1
15	12 months Parallel Computing Toolbox (Individual) Software Maint Service, Product Code: CDMIR	1
16	12 months Signal Processing Toolbox (Individual) Software Maint Service, Product Code: CSGIR	3
17	12 months Simscape (Individual) Software Maint Service, Product Code: CSSIR	3
18	12 months Simscape (Designated Computer) Software Maint Service, Product Code: CSSDR	2
19	12 months Simulink Coder (Designated Computer) Software Maint Service, Product Code: CRTDR	1
20	12 months Simulink Control Design (Individual) Software Maint Service, Product Code: CSDIR	2
21	12 months Simulink Control Design (Designated Computer) Software Maint Service, Product Code: CSDDR	2
22	12 months Stateflow (Individual) Software Maint Service, Product Code: CSFIR	3
23	12 months Stateflow (Designated Computer) Software Maint Service, Product Code: CSFDR	3
24	12 months Polyspace Bug Finder (Designated Computer) Software Maint Service, Product Code: CBDDR	1
25	12 months Simscape Electrical (Individual) Software Maint Service, Product Code: CPSIR	3
26	12 months Simscape Electrical (Designated Computer) Software Maint Service, Product Code: CPSDR	2

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## **Installation and Proficiency Timelines**

### 3. Timelines for the complete installation of proposed software:

- Tenderers must provide an accurate and detailed project plan detailing the steps and timelines for the complete installation of the proposed software (This applies to both software upgrades as well as alternative software). The plan must be submitted as a hard copy. The format of the project plan must be the MS Project default option or similar.

### 4. Proficiency of users between current software and proposed software:

- Tenderers must provide a detailed project plan which they will execute to assist in the proficiency of the existing users of the current software, on the proposed software. The plan must be submitted as a hard copy. The format of the project plan must be the MS Project default option or similar.

## **System Infrastructure and Configuration**

### 5. System infrastructure required by Transnet:

- As part of this tender submission, it is **mandatory** that tenderers provide Transnet with a comprehensive system requirement document detailing the hardware and licensing architecture requirements for the software to operate efficiently.

### 6. Central server software systems for multiple user installations:

- Tenderers must provide documented evidence that software can be stored on a central server and then installed and identically configured onto various machines countrywide in order to ensure software configuration uniformity across Transnet.

7. Data management and control systems required by Transnet:

- As part of this tender submission, it is **mandatory** that tenderers provide Transnet with a comprehensive systems requirements document for the software data storage and control systems detailing hardware and architecture requirements for the data systems to operate efficiently. Tenderers must provide two separate documents where one document details systems where Transnet is the custodian which owns, controls, manages and maintain the system and another where the principal software developer or their authorised agent is the custodian which owns, controls, manages and maintains the system. Please note that this is an option which Transnet reserves the right to accept or decline.

**Software Dependencies**

8. Independent or Dependent software:

- It is **mandatory** that tenderers must provide Transnet with documented details of whether the proposed software operates as independent/stand-alone software, or whether the proposed software is dependent on the availability of additional software from a different principal software developer in order to be operational.

9. Dependent software requirements from Transnet:

- If additional software from a different principal software developer is required in order for the dependent software to operate, the tenderer must provide documentation which clearly states whether Transnet will be required to acquire the additional software, or whether the additional software is “embedded” and thus provided and licensed by the principal software developer. Transnet prefers not to approach the market for additional software.

## **Legacy Data Migration**

10. Migration of current software data format, storage and control system to proposed software data format, storage and control system:

- Tenderer to provide evidence by way of a physical technical demonstration that the proposed software can import/access, transform, process, store and ultimately continuously utilize legacy software data without compromising any current data integrity. Should the proposed software not be able to migrate the data directly and successfully, an alternative method may be proposed. If it is necessary that the data migration requires additional software from a different principal software developer in order for the legacy data to be migrated successfully, the tenderer must provide documentation which clearly states whether Transnet will be required to acquire the additional software in order to ensure successful and efficient data migration, or whether the additional software license/s will be provided and licensed by the tenderer/principal software developer. Existing Transnet data will be made available for this demonstration up to one calendar week before the demonstration is scheduled. The evaluation will be based on integrity of the data which has been migrated and the speed of the migration process. A second set of Transnet data which will be made available at the time of the demonstration must also be migrated during the demonstration as confirmation of the proposed method.

## **Software Technical Demonstration**

11. Software Technology Demonstration to confirm technical and performance compliance of the proposed software:

- Tenderers must do a technical demonstration to confirm that the proposed software complies to the requirements of this technical specification. As a requirement the following must be demonstrated.

Number	Features to be Demonstrated
1	<p>Annual software maintenance and support to be provided to ensure that the perpetual MATLAB &amp; Simulink software packages currently used by TE:</p> <ul style="list-style-type: none"> <li>• are continuously maintained to operate with the latest technical enhancements (i.e. latest updates/revisions, etc.) released by the principal software developer (i.e. MathWorks),</li> <li>• obtains the necessary customer support from the principal software developer or authorised local reseller, as well as</li> <li>• receives all relevant supporting documentation for any technical enhancements, on an ongoing basis.</li> </ul>
2	<p>Maintenance support must be responded to within 1-2 days of receiving a notification advice. This maintenance support must include as a minimum:</p> <ul style="list-style-type: none"> <li>• Tier 2 support access from the principal software developer.</li> <li>• Software performance problem corrections.</li> <li>• Software and hardware configuration and installation assistance.</li> <li>• License management tools which allows the installation, configuration and de-installation of licenses to suit the needs of TE.</li> </ul>
<p><b>Please note that any equivalent or similar software product may be offered to comply with this tender</b></p>	

## APPENDIX B: ANNUAL SOFTWARE MAINTENANCE SUPPORT

DESCRIPTION OF ANNUAL SOFTWARE MAINTENANCE AND SUPPORT REQUIREMENTS:
<p>Annual Software Maintenance and Support must as a minimum comply to the requirements specified below:</p> <p><b><u>Software Maintenance and Support</u></b></p> <ol style="list-style-type: none"> <li>1. All software packages must be provided with annual Software Maintenance Support to ensure that the subscription and perpetual software packages which are utilized by TE are: <ul style="list-style-type: none"> <li>• continuously maintained for the period of the contracts to operate with the latest technical enhancements and software releases as released by the principal software developer; <ul style="list-style-type: none"> <li>▪ i.e. timeously provided with notifications of minor and major upgrades.</li> <li>▪ i.e. provided with software version support timelines for upgrade planning.</li> </ul> </li> <li>• continuously supported for the period of the contracts by timeously making available all the relevant and latest documentation which supports the latest technical enhancements and software releases;</li> <li>• continuously supported for the period of the contracts with the necessary end-user support from the approved and authorised local reseller and/or principal software developer. The required Software Maintenance Support also includes 24/7 high-quality support (i.e., so-called Hot Line support) which must be</li> </ul> </li> </ol>

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responded to within 8 hours of notification advice during weekday business hours, should there be any problems which are experienced whilst users operate the software during the execution for their tasks. This on-site/off-site support includes as a minimum:

- Software and hardware configuration and installation assistance.
- License management tools which allows the installation, configuration, and uninstallation of licenses to suit the needs of Transnet Engineering.
- Software performance problem corrections.
- Software system problem resolution.
- Tier 2/3 support access from the principal software developer,
- All technical support personnel must be certified by the principal software developer.

### **Sample Software Maintenance and Support Specification**

2. It is **mandatory** that a sample of the proposed annual Software Maintenance and Support specification, which encompasses the above as a minimum must be submitted as part of the tender submission to validate compliance and/or highlight exclusions.

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