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FUTURE SERVICE DELIVERY CONTRACT

SCHEDULE 2.1

PART 8 - MANAGEMENT INFORMATION AND DATA OBLIGATIONS

MANAGEMENT INFORMATION AND DATA OBLIGATIONS

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1 **DEFINITIONS**

In this Schedule, the following definitions shall apply:

Business Data	electronically held Authority Data, which is not System Data;
Data Definition	the process of analysing business objects in order to define them as data entities for use within information systems, including the business use rules associated with the objects;
Data Flow	the transmission of Data (from one Data Holding to another or into or out of a Data Holding), which is set out in the 'Mil Pers & Vets Primary Data Flow Register' (MP&VPDFR);
Data Holdings	a collection of Data held in filestore (which may be on-line or off-line and structured or unstructured), which is set out in the 'Mil Pers & Vets Primary Data Holding Register' (MP&VPDHR);
Data Quality	Data's fitness for purpose (as defined by business requirements, technical requirements and Data Quality controls which has been applied by the Contractor on behalf of the Authority for all processing of Authority Data) in a given context;
Data Quality Characteristic	one of the following 7 Authority strategic characteristics detailed in the 'Defence Data Quality Guide' as contained in the Data Room: <ul style="list-style-type: none">(a) accuracy;(b) accessibility/availability;(c) completeness;(d) reliability;(e) timeliness;(f) relevancy; and(g) validity.
Personnel Population	the groups of people of interest to the Authority as set out in the 'Definitions of Personnel Population' as contained in the Data Room;

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Reference Data managed lists of Business Data values specified by the Authority used to ensure processing fully reflects the Service Requirements; and

System Data Data sustaining the technical operation and system management of an ICT system for which the Contractor is responsible.

2 **BAU & SUPPORT {H1 – H6}**

Providing the Mil Pers & Vets Reporting Platform (MP&VRP): {H1}

2.1 The Contractor acknowledges that this requirement is related to ensuring that the MP&VRP is available, fully functioning, and accurate.

2.2 The Contractor shall:

- (a) ensure the MP&VRP is fully functional according to the latest agreed version of the Logical Application Model for the underlying application and available in accordance with Core Hours of Service Availability (as set out in Appendix 1 (Non-Functional Requirements & Service Availability) of Annex M (Technical & Applications) to Schedule 2.1);
- (b) run, extract, transform, and load the initial, full, and incremental Data loads according to the 'Refresh Schedule' (being a document, agreed by the Authority, setting out the frequency at which the Data in the MP&VRP gets updated from the source system(s)) and to meet the structural and business requirements of the Data being loaded, includes differing refresh frequencies for different data sets post-delivery of serial H33 of Annex H to Schedule 2.1;
- (c) ensure all MP&VRP Data refreshes complete outside of Core Hours of Service Availability (as set out in Appendix 1 (Non-Functional Requirements & Service Availability) of Annex M (Technical & Applications) to Schedule 2.1), unless agreed otherwise in writing by the Authority (MilPers MI Mgr);
- (d) ensure the MP&VRP Data accurately reflects all data sources (as at time of extraction); and
- (e) ensure that any MP&VRP Service Downtime required during Core Hours of Service Availability (as set out in Appendix 1 (Non-Functional Requirements & Service Availability) of Annex M (Technical & Applications) to Schedule 2.1) is agreed, in writing, by the Authority (MilPers MI Mgr) prior to such Service Downtime taking place.

MP&VRP Performance and Improvement {H2}

2.3 The Contractor acknowledges that this requirement is to ensure there is a Contractor culture of continually assessing the MP&VRP and identifying inefficiencies and performance issues, investigating the causes, and proposing and implementing solutions.

2.4 The Contractor shall:

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- (a) provide an electronic weekly 'Performance Assessment Report' to the Authority (MilPers MI Mgr) in the format approved by the Authority in writing prior to the Operational Services Commencement Date and prior to any future changes (for example, any changes to the MP&VRP such as patching/updates or Changes). The 'Performance Assessment Report' shall include, but is not limited to:
 - (i) performance and utilisation metrics of all platform technology layers (including, but not limited to, processor & memory utilisation across all underlying server compute nodes, network bandwidth utilisation, information on database loading, resource consumption, MP&VRP server load in terms of memory and explanations on any dips in performance, particularly week-on-week dips) for the previous week (Monday to Sunday); and
 - (ii) trend analysis across a 13-month rolling average for all metrics;
- (b) on request of the Authority (MilPers MI Mgr), add, amend and remove data, parameters and metrics to the 'Performance Assessment Report';
- (c) provide an electronic monthly 'Assessment Report' to the Authority (MilPers MI Mgr), summarising the performance and efficiency of the MP&VRP as identified in the 'Performance Assessment Report'. The Assessment Report includes but is not limited to technical details, including root cause analysis, for performance issues of MP&VRP raised by the Contractor or the Authority (MilPers MI Team) and changes or technical improvements which would improve MP&VRP performance and/or support better MI reporting functionality.
- (d) deliver, in accordance with the Change Control Procedure, the MP&VRP Changes proposed in the monthly 'Assessment Report' that have been accepted in writing by the Authority (MilPers MI Mgr); and
- (e) provide the Authority (MilPers MI Team) access to system performance, usage information (including raw data behind reports in this Paragraph 2.4 and ability to create their own analyses) and automated MI information in accordance with Core Hours of Service Availability (as set out in Appendix 1 (Non-Functional Requirements & Service Availability) of Annex M (Technical & Applications) to Schedule 2.1).

Specialist Technical Advice and Support {H3}

2.5 The Contractor acknowledges that this requirement is to ensure that the Authority (MilPers MI Team) is provided with specialist technical advice and face-to-face support on all areas of the MP&VRP to enable the Authority (MilPers MI Team) to meet their responsibilities in all areas of data management and MI and provide technical support to the Authority's MI Community. Contractor advice and support includes technical and system set up/configuration, 'Data Preservation Repository' (DPR) and any military MI questions. This requirement also includes providing technical support by attending and participating in meetings as required by the Authority (MilPers MI Mgr), including at times, giving technical briefings.

2.6 The Contractor shall:

- (a) upon request from the Authority (MilPers MI Team), provide support to the Authority (MilPers MI Team) within Core Hours of Service Availability (as set out in Appendix 1 (Non-Functional Requirements & Service Availability) of Annex M (Technical & Applications) to Schedule 2.1);

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- (b) upon request from the Authority (MilPers MI Team), provide immediate technical advice and/or support, to the satisfaction of the Authority (MilPers MI Team);
- (c) upon request from the Authority (MilPers MI Team), assess and research technical questions from the Authority (MilPers MI Team) and provide an answer/resolution, to the satisfaction of the Authority (MilPers MI Team); and
- (d) on at least 24 hours prior written notice from the Authority (MilPers MI Mgr), provide at least one SQEP to attend a meeting where the Contractor's attendance is requested.

MP&VRP Service Failure Information {H4}

2.7 The Contractor acknowledges that this requirement is to ensure that Authority (MilPers MI Team) is provided with full and accurate information about incidents in a timely manner by the Contractor, and that this is with sufficient technical detail to enable the Authority (MilPers MI Team and/or the MilPers MI Mgr) to make informed decisions about actions, initiating business continuity arrangements and communicating with the 'Service Management Information Centres' (each of the single services have they own MI team) and/or 'Management Information Centres'.

2.8 The Contractor shall:

- (a) provide the Authority (MilPers MI Team) with technical information (including but not limited to, the reason, impact, solution, estimated resolution time, and proposed customer communications) on all medium or higher impact level MP&VRP failures (in both production and any testing/development environments being used by the Authority) promptly following the initial identification of such failure;
- (b) for issues not immediately resolvable to the satisfaction of the Authority (MilPers MI Team), provide the Authority (MilPers MI Team) with technical updates on the incident (including, if known, the fix and the expected resolution timescale) every hour during Core Hours of Service Availability (as set out in Appendix 1 (Non-Functional Requirements & Service Availability) of Annex M (Technical & Applications) to Schedule 2.1) until a fully functional service is resumed;
- (c) promptly inform the Authority (MilPers MI Team) of all incidents from impact level 'Medium' upwards that affect the MP&VRP;
- (d) following the resolution of each MP&VRP failure, provide the Authority (MilPers MI Team) with full details of the resulting investigation, including the reasons for the issue or failure, work undertaken to resolve it, work to prevent future reoccurrence and any ongoing or future potential impact on the delivery of the Services; and
- (e) when any element of the MP&VRP is not available and/or fully functional during Core Hours of Service Availability (as set out in Appendix 1 (Non-Functional Requirements & Service Availability) of Annex M (Technical & Applications) to Schedule 2.1) according to the latest agreed version of the Logical Application Model for the underlying application, provide the Authority (MilPers MI Team) with details of why the element of the MP&VRP is not available and/or fully functional (such details to include, but not be limited to, summary of issue, issue owner, action to be, or being, taken, the effect of the issue(s) on platform End Users, expected resolution time and the message to be disseminated to the Authority's 'MI Community'.

Authority Access to Contractor's Computer System {H5}

2.9 The Contractor acknowledges that:

- (a) the working practices of the Authority (MilPers MI Team) requires them to have access to the Contractor System for running, downloading, processing, delivering, and filing Management Information Service Request (MISR) reports and associated information (including access to historic Authority MI files and/or miscellaneous documentation held on the Contractor System); and
- (b) the Authority (MilPers MI Team) may require access outside of Core Hours of Service Availability (as set out in Appendix 1 (Non-Functional Requirements & Service Availability) of Annex M (Technical & Applications) to Schedule 2.1) to deal with threat to life, MI requests, or to carry out MP&VRP Field Acceptance Testing.

2.10 The Contractor shall:

- (a) provide the Authority (MilPers MI Team) with access to the Contractor System and servers to undertake, with software tooling installed and maintained in line with the MP&VRP, necessary Data Holding reviews, Data analysis, Data Quality validations, and other related Data & MI activities;
- (b) provide the Authority (MilPers MI Team) with continuous access to the Contractor System (directly to network with Contractor provisioned ICT equipment or alternative connectivity mechanism which provides same functionality and usability);
- (c) ensure that each team member of the Authority (MilPers MI Team) has a distinct connection available, from an Authority designated location (the availability of which is to be in accordance with Core Hours of Service Availability (as set out in Appendix 1 (Non-Functional Requirements & Service Availability) of Annex M (Technical & Applications) to Schedule 2.1));
- (d) ensure vendor provided software tools is made available, installed, and maintained to support and enhance the MP&VRP (including, but not limited to, the following (where software platform changes are made, their equivalent to be made available): 'Structured Query Language' (SQL) Developer, OBIEE Client tools, Informatica & DAC Client tools, ODI Client tools and Microsoft Office tools);
- (e) ensure that each member of the Authority (MilPers MI Team) has continuous access to the underlying systems, servers, databases and services to enable the full functional capability and use of the software tools referred to in this Paragraph 2.10; and
- (f) ensure that there is capability to seamlessly transfer data to/from the Contractor's network from/to the Authority's network, without restriction excepting necessary security constraints.

MP&VRP Performance Matrix {H6}

2.11 In order to provide a reporting platform capable of servicing a high concurrent user count, with minimal or nil degradation to service performance, the Contractor shall ensure that the MP&VRP is performant in accordance with the MP&VRP Performance Matrix (as set out in Appendix 1 of Annex H to Schedule 2.1)

and in accordance with Core Hours of Service Availability (as set out in Appendix 1 (Non-Functional Requirements & Service Availability) of Annex M (Technical & Applications) to Schedule 2.1).

3 BAU & SUPPORT - ADDITIONAL {H7 – H14}

Provide a MP&VRP Production Support Environment {H7}

3.1 The Contractor acknowledges that during the transformation period of ownership transfer of the MP&VRP reporting capability layer over to Authority ownership and beyond, the Authority (MilPers MI Team) will require access to a production support environment for use to test and prove OBIEE repository data and reporting catalogue changes.

3.2 The Contractor shall:

- (a) make available to the Authority (MilPers MI Team) an non-obfuscated production support environment for use as a production support capability in accordance with Core Hours of Service Availability (as set out in Appendix 1 (Non-Functional Requirements & Service Availability) of Annex M (Technical & Applications) to Schedule 2.1);
- (b) ensure that the MP&VRP production support environment incorporate a fully capable reporting layer connected to the live version of the MP&VRP data warehouse (or an equivalent);
- (c) provide support and maintenance of the production support environment in line with all other environments in the MP&VRP production estate;
- (d) ensure that the reporting layer (currently OBIEE) is connected to and uses the live version of the MP&VRP data warehouse, or a suitable alternative with a data set of within 24 hours of currency of the MP&VRP production platform;
- (e) ensure production support environment can support a minimum of 20 simultaneous Authority users, with no loss of performance characteristics in data retrieval or user presentation.
- (f) ensure a JPA production and associated data sources copy instance is made available as an integrated user interface for this environment;
- (g) make provision for the addition of other data sources to this production support environment that match the MP&VRP production platform capability in place and/or inclusion of new data sources to meet or evaluate emerging Service Requirements
- (h) ensure that the Authority (MilPers MI Team) has continuous access to the reporting platform to undertake all reporting layer code and configuration deployments (including, but not be limited to, OBIEE repository database deployments and on-line updates, webcast deployments (or refreshed from production deployments as part of the change process)); and
- (i) ensure all data security constraints and controls are enabled as per production estate but altered and enhanced as necessary to allow for this capability to be continuously and effectively utilised by the Authority (MilPers MI Team).

Maintain MP&VRP to Load, Manage and Store Military HR Information {H9}

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- 3.3 The Contractor acknowledges that this requirement is about the delivery of additional data, system fields and MI supporting items into the MP&VRP as required by the Authority (MilPers MI Mgr).
- 3.4 The Contractor shall:
- (a) ensure that any future Business Data fields in JPA or other data source feeding into the MP&VRP are made available in MP&VRP, unless Authority (MilPers MI Mgr) specifically requests their omission, in a format to support MI reporting, and agreed by the Authority (MilPers MI Mgr);
 - (b) ensure that alongside the JPA/other source data field(s) that the Contractor creates, configures, and maintains additional fields or items in the MP&VRP to support MI reporting requirements as requested by the Authority (MilPers MI Mgr); and
 - (c) ensure that all data fields in the MP&VRP conform to the Authority (MilPers Data Mgr) definition and syntax rules as notified to the Contractor as part of the Change Control Procedure and, where the definition and syntax rules are not available to the Contractor, it must request them from the Authority (MilPers Data Mgr) in good time to ensure the Authority's Standards are applied).

Write-Back Capability in MP&VRP {H10}

- 3.5 The Contractor acknowledges that this requirement is about providing write-back functionality in the MP&VRP to enable recording of comments against data fields and the creation of new write-back fields.
- 3.6 The Contractor shall:
- (a) ensure that the functionality will not have the ability to change the base HR Data fields held in the MP&VRP or that in JPA/data source;
 - (b) enable capability in MP&VRP for End Users to have a write-back facility on Data fields as defined by Authority (MilPers MI Team);
 - (c) provide Authority (MilPers MI Team) with a housekeeping capability on write-back data to ensure access is available to Authority (MilPers MI Team) to maintain records and enable deletion of write-back data in accordance with HR rules for Business Data set by the Authority (MilPers MI Mgr);
 - (d) provide Authority (MilPers MI Team) with access to change End User's write-back access permissions;
 - (e) record details of all write-back entries made (including, but not limited to, the date/time of the entry and the identity of the author of the entry) and make this information available to the Authority (MilPers MI Team);
 - (f) enable the write-back function on defined selection of data fields to be defined by the Authority (MilPers MI Mgr), or new write-back fields not linked to an existing data field, via the Change Control Procedure;

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- (g) ensure End Users have access to the write-back facility in accordance with Core Hours of Service Availability (as set out in Appendix 1 (Non-Functional Requirements & Service Availability) of Annex M (Technical & Applications) to Schedule 2.1); and
- (h) enable write-back on new data fields as requested by Authority (MilPers MI Mgr).

Provision of Technical resources to Support MP&VRP {H13}

- 3.7 The Contractor acknowledges that this requirement is about ensuring that the MP&VRP is supported by competent technical staff that have the knowledge and the experience in the platform's technologies, functionality, and applications.
- 3.8 The Contractor shall:
- (a) provide SQEP to support the MP&VRP in the technologies and functionality of the platform and vendor product set and directly associated technologies (for the support of the MP&VRP reporting delivery capability, the responsibility of supporting this will pass to the Authority on successful delivery of Serial H35, Annex H of Schedule 2.1);
 - (b) provide resources that understand the business usage and data utilised within the Authority's Data Holdings, specifically those used on the MP&VRP; and
 - (c) ensure that all technical resources supporting the MP&VRP are SQEP and have successfully achieved vendor product certification for all applications they use to support the MP&VRP. Certification to be evidenced for all technical resources undertaking support or change activity on the MP&VRP.

Management of Access Permissions and Access to MP&VRP {H14}

- 3.9 The Contractor acknowledges that this requirement is about managing permissions and control access to the MP&VRP and associated data to ensure only authorised individuals can access the functions and data they are authorised to access (this includes the creation of new or changing existing responsibilities and security profiles to support user self-service and/or additional data source(s)).
- 3.10 The Contractor shall:
- (a) from the Operational Service Commencement Date:
 - (i) provide access to the Authority (MilPers MI Team) on the MP&VRP for the purpose of changing permissions in MP&VRP in accordance with Core Hours of Service Availability (as set out in Appendix 1 (Non-Functional Requirements & Service Availability) of Annex M (Technical & Applications) to Schedule 2.1);
 - (ii) investigate, plan, and amend existing MP&VRP access permissions to conform to permission requirements under any future MP&VRP upgrade, which shall be completed in adherence to the delivery plan (for technical refresh of the platform to ensure Evergreen requirement) and within the technical refresh of the underlying platform; and
 - (iii) administer all account access through the Trusted Route.

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- (b) from the Operational Service Commencement Date until the successful delivery of the requirement in serial H35 of Annex H to Schedule 2.1:
 - (i) create or amended responsibility and/or security profile in next planned change delivery method for MP&VRP, in accordance with the Change Control Procedure, from date of receipt of request from the Authority (MilPers MI Mgr) or within an agreed deadline with the Authority (MilPers MI Mgr);
 - (ii) ensure account access and permissions align with vetting standards and/or DBS Security rules and role-based permissions with access based on a 'Need to Know' requirement;
 - (iii) provide a monthly 'Permissions Extract Report' to the Authority (MilPers MI Team), which shall include, but not limited to, a list of MP&VRP Catalogue items and their access permissions. The 'Permissions Extract Report' shall be in a format which has had the Authority's written approval prior to the Operational Services Commencement Date; and
 - (iv) on receipt of a request from the Authority (MilPers MI Team), deliver an ad-hoc report from the MP&VRP Catalogue Manager to meet the Authority (MilPers MI Team) technical requirements, in electronic format to be approved by the Authority (MilPers MI Mgr).

4 DPR REQUESTS {H17 – H20}

Assessing 'MI Service Requests' (MISRs) {H17}

- 4.1 The Contractor acknowledges that the historic HR Data for the Armed Forces that existed prior to JPA is held on the DPR system, containing information from over 50 legacy systems and that the Authority routinely receives requests for information held on the DPR, known as 'MI Service Requests' (MISR), which are each assigned a unique MISR number.
- 4.2 On receipt of an MISR from the Authority (MilPers MI Team), the Contractor shall promptly:
 - (a) provide written acknowledgement of receipt to the Authority (MilPers MI Team);
 - (b) assess the MISR and make a technical assessment on whether the request can be answered by the DPR (in either a single report output or multiple outputs, the size and nature of such output(s) are dependent on MISR question and its complexity and how the information can be extracted from it); and
 - (c) provide the Authority (MilPers MI Team) with an expert technical assessment on whether the DPR MISR request can be answered by data held on the DPR and how the requirement can be met, including the technical coding of DPR query(s). If DPR Data cannot answer an MISR, the Contractor shall provide the reason(s) why.

Delivering 'MI Service Requests' {H18}

- 4.3 The Contractor acknowledges that this requirement is about producing and delivering the MISR output as assessed at H17. In delivering the output of the MISR under Paragraph 4.2 (as assessed and approved by the Authority (MilPers MI Team)), the Contractor shall:

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- (a) using an appropriate enquiry tool, extract the MI out of the DPR and deliver the approved technical output to the Authority (MilPers MI Team); and
- (b) produce and deliver output(s) as a priority service within Core Hours of Service Availability (as set out in Appendix 1 (Non-Functional Requirements & Service Availability) of Annex M (Technical & Applications) to Schedule 2.1) when the MISR is for operational or statutory reasons (including but not limited to, Parliamentary Questions, FOI requests and police searches).

DPR MISR Documentation {H19}

- 4.4 The Contractor shall provide the Authority (MilPers MI Team) with technical documentation, to the satisfaction of the Authority (MilPers MI Mgr), explaining the development and delivery of the DPR MI output produced under Paragraph 4.3 to meet the Customers' requirements.

DPR Corrections {H20}

- 4.5 The Contractor shall:
- (a) ensure the DPR remains accurate, accessible in accordance with security rules, and conforms to any legislative changes to the Data Protection Legislation;
 - (b) undertake defined corrections to DPR data, as requested by the Authority (MilPers MI Team), in accordance with the Change Control Procedure; and
 - (c) maintain an audit trail for all changes to DPR and retain such information in accordance with the 'DBS Retention and Disposal Policy'.

Training {H22}

- 4.6 The Contractor acknowledges that this requirement is about delivering specialist and technical training to the Authority's MI community (MP&VRP report writers) including the Authority (MilPers MI Team) on the MP&VRP's functionality, capability, and data sources. For the avoidance of doubt, this requirement does not cover the transfer of knowledge from the Contractor to the Authority as part of the obligation in serial H34 of Annex H to Schedule 2.1 to transfer the MP&VRP reporting delivery capability to Authority ownership. The Contractor acknowledges that, occasionally, the location of the training may be on a MoD site within the UK which is not where the Authority's MilPers MI Team are located.
- 4.7 The Contractor shall design, administer, and deliver specialist technical training days on topics and to the frequency as agreed with the Authority (MilPers MI Mgr) (such agreement not to be unreasonably withheld or delayed). Such training shall:
- (a) include, but not limited to, providing the Authority with training materials (based on examples from the MP&VRP) and accompanying training notes, examples, exercises, and 'How To Guides' as agreed with Authority (MilPers MI Mgr);
 - (b) be delivered on topics including, but not limited to, report development in specific subject areas of MP&VRP (e.g. payroll or future new data sources), using XML, using HTML, and using new MP&VRP MI functionality / analysis packages;

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- (c) reflect the live MP&VRP and content is consistent with MoD standards;
- (d) be amended or updated as reasonably requested by the Authority (MilPers MI Mgr);
- (e) require students to complete an Authority (MilPers MI Mgr) approved training feedback questionnaire and the results made available to the Authority (MilPers MI Team). The Contractor agrees that positive feedback shall be considered as the student providing neutral or above markings.

5 MAKE BETTER USE OF INFORMATION AND DATA {H27 – H33}

Deliver MP&VRP with reporting embedded Data provenance {H32}

5.1 In order for the Contractor to provide MP&VRP End Users information that shows the data lineage from source systems through to the reporting layer, to help minimise incorrect assumptions being made about the Data in the MP&VRP and to allow the End Users to understand the context of the information provided in an MI dashboard/report, the Contractor shall:

- (a) record the data provenance (including the source of data, business purpose, and any Data transformation undertaken prior to its presentation) for all data presented to the reporting layer in the MP&VRP;
- (b) ensure that the data provenance is maintained and updated for all new Data items or for modification of existing ones; and
- (c) make available the data provenance to End Users within the reporting product deployed as part of the Service.

Provide and Maintain MP&VRP Data Warehouse That's Capable Varying Data Refreshing {H33}

5.2 The Contractor shall:

- (a) provide and maintain a data warehouse for the MP&VRP which allows different Data Holdings to be refreshed (i.e. new/changed data loaded) at different frequencies;
- (b) in order to provide the capability to have different data refresh capacities and/or frequencies for different data groups in the MP&VRP, establish and maintain 'Full' data loads and 'Incremental' data loads for all data domains sourced into the data warehouse; and
- (c) agree the capacities and/or frequencies of such data loads with the Authority (Data Domain Owner and MilPers MI Mgr).

6 DATA COMMAND AND CONTROL {H34 – H38}

Provide Authority Access to MP&VRP Development and Test Environments {H37}

6.1 The Contractor shall:

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- (a) provide the Authority (MilPers MI Team) with access to non-obfuscated MP&VRP environments to support the Authority (MilPer MI Team) to fulfil its responsibilities on taking ownership of the MP&VRP delivery capability from the Contractor, which includes:
 - (i) ownership of the reporting data model (the reporting model existing in the performant reporting layer - star schema dimensional data model);
 - (ii) ownership, administration and sole material control of the semantic reporting layer (currently OBIEE repository database) that defines the physical data model through to presentation layers of the reporting; and
 - (iii) ownership, administration and sole material control of the reporting catalogue (currently OBIEE webcat) that contains and controls the user interface collateral (Dashboards and reports);
- (b) provide and maintain non-obfuscated MP&VRP development and test environment landscape to the Authority (MilPer MI Team) to support change activity for production support and scheduled changes. Environments to include but not limited to:
 - (i) development - for BAU activity;
 - (ii) development - for functional change; and
 - (iii) 'Test for System and Unit Testing'.

7 MI AND DATA SHARED REQUIREMENTS {H39 – H40}

7.1 The Contractor acknowledges that this requirement is for data knowledge services, including the practice of understanding, documenting and conveying information about data in Data Holdings and Data Flows (where one end of the Data Flow is to/from a Data Holding and the other end of the Data Flow is to/from any other Data Holding, whether or not it is managed by the Contractor under this Agreement)).

Data Model Schema Documentation Pack {H39}

7.2 The Contractor shall provide and maintain a 'Data Model Schema Documentation Pack' (being a set of documents that technically describe the Data components of ICT system for all Data Holdings and all Data Flows (if applicable)) to the Authority (MilPers MI Team and MilPers Data Team) with the following timescales:

- (a) within 3 months of the Operational Service Commencement Date, to cover all Data Holdings and all Data Flows at the time of the Operational Service Commencement Date;
- (b) from Operational Service Commencement Date, to cover all new Data Holdings and new Data Flows (under development at Operational Service Commencement Date and developed since Operational Service Commencement Date) at the point that Testing starts (or before implementation if there is no Testing); and

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- (c) all Data Holdings and all Data Flows subject to the Change Control Procedure after Operational Service Commencement Date at the point that Testing starts (or before implementation if there is no Testing).

7.3 Each 'Data Model Schema Documentation Pack' shall be produced in an editable electronic format in a medium readily useable by the Authority on a Authority system, as specified by the Authority (MilPers MI Team and MilPers Data Team) and include, but not be limited to, the following:

- (a) 'Logical Data Model Entity Relationship' diagrams, providing an accurate model of the information requirements of all/part of an organisation which serves as a basis for file and database design but is independent of any specific implementation technique or product (with cardinality) in an industry standard modelling tool which is ModNet compliant;
- (b) 'Physical Data Model Entity Relationship' diagrams, showing how Data has been structured for physical implementation in a database (with cardinality, key relationship columns and granularity constraints) in an industry standard modelling tool which is MoDNet compliant);
- (c) a 'Data Dictionary' (being a structured description of a database, containing the names and structures of all Data types, and can also hold information such as processing restrictions, Data Quality validation, and rules), with granularity at the table and column level and showing all Data items with datatype definitions, constraints, rules for Business Data (as set by the Authority), the Data Definitions to Business Data and Data transformations, Authority process ownership; and
- (d) where a Data Flow exists, a Data lineage showing the source and target Data items with any Data transformations for such Data item.

REFERENCE DATA ITEM CATALOGUE {H40}

7.4 The Contractor shall provide and maintain a 'Business Reference Data Item Catalogue' (being a document which lists and describes all Reference Data at the Data item level) to the Authority (MilPers MI Team) and Authority (MilPers Data Team):

- (a) within 3 months of the Operational Service Commencement Date, to cover all Data Holdings and all Data Flows at the time of the Operational Service Commencement Date;
- (b) from Operational Service Commencement Date, to cover all new Data Holdings and new Data Flows (under development at Operational Service Commencement Date and developed since Operational Service Commencement Date) at the point that Testing starts (or before implementation if there is no Testing); and
- (c) all Data Holdings and all Data Flows subject to the Change Control Procedure after Operational Service Commencement Date at the point that Testing starts (or before implementation if there is no Testing).
- (d) each 'Business Reference Data Item Catalogue shall be produced in an editable electronic format in a medium readily useable by the Authority on the Authority System (as specified by the Authority (MilPers MI Team and MilPers Data Team)), be in a structure and with content agreed with the Authority (MilPers MI Team) and including but not limited to the following:

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- (i) Reference Data with system and/or system module names;
- (ii) 'Data group business names' (being the names for a collection of Data items logically related to each other, often for a common business purpose);
- (iii) Data item business names;
- (iv) all Data held in an information system or filestore;
- (v) the 'Data Currency' (being the relevance and applicability of the Data to current business operations, where the Data may be 'current', 'applicable', 'obsolescent', or 'obsolete') of all Data held in an information system or filestore;
- (vi) the data value description or definition; and
- (vii) Reference Data structural complexity (for example, simple list of values, any hierarchy details (for example, parent/child hierarchy (where one Data item is logically the owner of another in business terms, so that the owner, the "Parent", may have own one or more instances (or none) of the subordinate Data item, the "Child")) and complexity (for example, embedded in table with code)).

8 DATA MANAGEMENT {H41 – H48}

8.1 The Contractor acknowledges that this requirement is for the Data management, Data Quality, Data lifecycle, and Data knowledge services relating to the Data contained in Data Holdings and in Data Flows (where one end of the Data Flow is to/from a Data Holding and the other end of the Data Flow is to/from any other Data Holding (whether or not it is managed by the Contractor pursuant to this Agreement)).

Provision of Data Subject Matter Expertise {H41}

8.2 From the Operational Service Commencement Date, the Contractor shall provide 'Data Subject Matter Expertise' for all Data Holdings and all Data Flows to the Authority (MilPers Data Team) on request. Such 'Data Subject Matter Expertise' shall:

- (a) consist of all aspects of Data Management, Data Definition and Data Quality of all Data items in all Data Holdings and all Data Flows and delivering or facilitating the delivery of other obligations in Paragraphs 9 and 10 of this Schedule.
- (b) be delivered by Contractor Personnel who possess the following skills and experience (evidence of which to be provided to the Authority on request):
 - (i) at least a working understanding of the Data Holdings and Data Flows;
 - (ii) experience and knowledge of Data contained in the Data Holdings and Data Flows, and the relevant Software and Hardware processes of that Data; and
 - (iii) full knowledge of all relevant aspects of the Contractor's delivery of the Authority's Service Requirements.

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8.3 The Contractor acknowledges that:

- (a) the frequency of requests Authority (MilPers Data Team) will be between 1 to 12 times per month, with a likely average of 8 times per month;
- (b) the frequency of regular meetings will be at least once every 3 weeks with a maximum of 1 per week with an estimated normal duration of 30 minutes;
- (c) the frequency of ad hoc meetings will be between 1 to 12 times per month, with a likely average of 8 times per month and of an estimated duration of 30 minutes, excepting one such meeting with a maximum of 2 hours once per month; and
- (d) the frequency of face-to-face meetings on the Authority Premises will be at least once every 3 months, with a likely average of 6 times per year and a maximum of 12 times per year, with an estimated average duration of 60 minutes and a maximum of 120 minutes.

Data Quality assurance in design and by recovery {H42}

8.4 From the Operational Service Commencement Date, the Contractor shall provide Data Quality assurance in Data design and by recovery for all Data Holdings and all Data Flows to the Authority (MilPers Data Team).

- (a) through undertaking Data analysis, Data design, and Data Testing:
 - (i) for each new Data Holding and/or new Data Flow under development at the time of the Operational Service Commencement Date;
 - (ii) for each new Data Holding and/or new Data Flow developed after the Operational Service Commencement Date; and
 - (iii) for each Data Holdings and/or Data Flow subject to the Change Control Procedure; and
- (b) for new and changed Data items and Data values (including Reference Data values) ensuring that they are fit for purpose in accordance with the Service Requirements (and any associated technical requirements) and Data Quality controls for all Business Data processing and at all points of Data load, Data entry, Data integration, Data interface, update, import and export as required by the Authority and expressed in the Change Control Procedure, including:
 - (i) developing Data processing, screen functions, Data capture functions, Data extract functions, and Data structures to ensure Data Quality is enabled and maintained;
 - (ii) providing Automated Update methods that are efficient, accurate, appropriate to the Service Requirement and approved by the Authority, using for example but not limited to system update, enabled Authority or End User screen-based direct entry, or processing data capture inputs such as robotics, forms and files (for example 'Comma Separated Variable' (CSV) or Microsoft Excel formats); and
 - (iii) ensuring that Data Quality unexpected or negative effects or impacts on related Data, dependent Data or affected Data items and values outside of the scope of the Change

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Control Procedure are brought to the attention of the Authority (MilPers Data Team) to ensure consistent and effective processing and Data Quality continuity.

- 8.5 The Contractor shall provide Data Quality assurance by recovery to the Authority (MilPers Data Team) for all Data Holdings and all Data Flows from the Operational Service Commencement Date:
- (a) through recovery, remediation or corrective action through the Change Control Procedure;
 - (b) with corrections to Data items and Data values (including Reference Data values) ensuring that they are fit for purpose in accordance with the Service Requirements (and any associated technical requirements) and Data Quality controls for all Business Data processing and at all points of Data load, Data entry, Data integration, Data interface, update, import and export as required by the Authority and expressed in the Change Control Procedure, including:
 - (i) making corrections to Data values (including Reference Data values) where data fails to be fit for purpose, irrespective of whether the root cause is or is not the result of an omission, incorrect action, failure of process, or failure of quality control by the Contractor;
 - (ii) making changes to Data processing, screen functions, Data capture functions, Data extract functions, and Data structures to ensure data is fit for purpose, irrespective of whether the root cause is or is not the result of an omission, incorrect action, failure of process, or failure of quality control by the Contractor;
 - (iii) making changes to Data Quality controls to ensure data is fit for purpose, irrespective of whether the root cause is or is not the result of an omission, incorrect action, failure of process, or failure of quality control by the Contractor;
 - (iv) Monitoring the correction for a period required by the Authority (MilPers Data Team) and reporting where data fails to be fit for purpose (as required in the Data governance and Data Quality reporting capability required in Paragraphs 10.13 and 10.14 of this Part 8 of Schedule 2.1);
 - (v) providing Automated correction methods that are efficient, accurate, appropriate to the Service Requirement and approved by the Authority using, for example but not limited to system update, enabled Authority or End User screen-based direct entry, or processing data capture inputs such as forms and files (for example 'Comma Separated Variable' (CSV) or Microsoft Excel formats); and
 - (vi) Ensuring that Data Quality unexpected or negative effects or impacts of correction on related Data, dependent Data or affected Data items and Values outside of the scope of the correction in the Change Control Procedure are notified to the Authority MilPers Data team to ensure consistent and effective processing and Data Quality continuity.

Provision of Access to Data Holdings {H43}

- 8.6 The Contractor shall provide continuous and complete visibility using a real-time access mechanism at the direct data access layer to the production environments of all on-line holdings in Data Holdings for the Authority (MilPers MI Team) and Authority (MilPers Data Team):

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- (a) within 3 months of the Operational Service Commencement Date, to cover all Data Holdings and all Data Flows at the time of the Operational Service Commencement Date;
- (b) from Operational Service Commencement Date, to cover all new Data Holdings and new Data Flows (under development at Operational Service Commencement Date and developed since Operational Service Commencement Date) at the point that Testing starts (or before implementation if there is no Testing); and
- (c) all Data Holdings and all Data Flows subject to the Change Control Procedure after Operational Service Commencement Date at the point that Testing starts (or before implementation if there is no Testing).

8.7 The Contractor shall provide real-time access mechanisms to ensure that from the Operational Service Commencement Date all required accesses are provided:

- (a) to Authority nominated staff in accordance with Baseline Security Requirements contained in Annex 1 of Schedule 2.4 (Security Management);
- (b) to Authority nominated staff using such direct data access layer tools as are appropriate to allow for native data connections to Data Holdings; and
- (c) in conformance with the Authority's access requirements, the Contractor will provide a user administrative function to activate, maintain and inactivate user accounts, to be provisioned from the Service Desk and to be defined in the Service Catalogue; and access authorisation function to be fully compliant with the extant security requirements, as set out in Schedule 2.4 (Security Management).

8.8 Within 12 months of the Operational Service Commencement Date, the Contractor shall provide real-time access mechanisms to ensure that all required access is to be available to nominated Authority staff using Authority MODNet devices. Such real-time access mechanisms shall provide suitably authorised Authority staff with an appropriate means of connecting to the Data Holding, using industry standard software tooling specific to the Data Holding container technology:

- (a) via the connection and software approved by the vendor of the software product supporting the Data Holding for executing 'Structured Query Language' (SQL) where the data is contained in a structured Data Holding (being Data that is held in fixed fields in a Data Holding);
- (b) via the same product tooling that is used by the Contractor for accessing the data in a Data Holding where the data is contained in a unstructured Data Holding (Data in a format that requires interpretation);
- (c) using a End User accessed device connectivity available to the Authority staff in their default locations; and
- (d) with sufficient written and verbal guidance and instruction so that the Authority staff can easily use the mechanisms from the dates of provision described above.

Data Quality Reporting and Tools {H44}

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- 8.9 The Contractor shall provide, maintain, update and issue a Data Governance and Data Quality Reporting capability for all cited Data Holdings and all cited Data Flows to the Authority MilPers Data Team:
- (a) Providing such capability:
 - (i) within 6 months of the Operational Service Commencement Date, to cover all Data Holdings and all Data Flows at the time of the Operational Service Commencement Date;
 - (ii) from Operational Service Commencement Date, to cover all new Data Holdings and new Data Flows (under development at Operational Service Commencement Date and developed since Operational Service Commencement Date) at the point that Testing starts (or before implementation if there is no Testing); and
 - (iii) all Data Holdings and all Data Flows subject to the Change Control Procedure after Operational Service Commencement Date at the point that Testing starts (or before implementation if there is no Testing);
 - (b) From the Operational Service Commencement Date, the Contractor shall provide a Weekly Data Quality Adherence Report which shall contain:
 - (i) Trend analysis reporting demonstrating the Contractor's adherence to Data Quality, Data integrity and Data security (for example, the function of protecting the Data from inappropriate access, loss and corruption) requirements;
 - (ii) Negative adherence indicators to demonstrate a downward trend across time for those Data items and Data values for which the Contractor has responsibility for quality management to ensure that failings are being remediated;
 - (iii) Quality or integrity failings resulting from any planned or unplanned change activity implemented by the Contractor;
 - (c) From the Operational Service Commencement Date, the Contractor shall provide a Monthly Data Flow Quality Report, which shall contain:
 - (i) The quality of data in all cited Data Flows to or from (including between) Data Holdings;
 - (ii) The rate of data throughput in each Data Flow transaction and of each Data item in a Data Flow;
 - (iii) Details of the data not fit for purpose as defined by approved and documented Authority Requirements and Data Quality controls applied by the Contractor on behalf of the Authority to each Data Flow transaction and to each Data item in the Data Flow to include:
 - (A) The percentage throughput which is not fit for purpose;
 - (B) Details of any Data Quality Characteristic which is not met by the data;

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- (C) Details of any detectable root cause leading to a Data Quality Characteristic not being met;
- (d) From the Operational Service Commencement Date, the Contractor shall provide a Monthly Data Quality Risk Report which shall contain:
 - (i) Any risk inherent in new Data design or Data change which may cause the data to be not fit for purpose as defined by approved and documented Business Requirements, Technical Requirements and Data Quality controls applied by the Contractor on behalf of the Authority;
 - (ii) Details of the nature of risk, likelihood of risk becoming an issue, timescale in which risk may become an issue, data affected; Personnel Populations affected, volumes per Personnel Population affected, potential impact on the approved and documented Authority Requirements and Data Quality controls, and risks that have disappeared since last reported as a risk;
- (e) From the Operational Service Commencement Date, the Contractor shall provide a Monthly Data Quality Issue Report which shall contain:
 - (i) any Data Quality issue where the data fails to be fit for purpose as defined by approved and documented Authority Requirements and Data Quality controls applied by the Contractor on behalf of the Authority;
 - (ii) any Data Quality issue detected by the Contractor or reported to the Contractor by others (including users of Data Holdings the Contractor manages, DBS teams, the operators of Data Holdings not managed by the Contractor which interface with Contractor-managed systems, and recipients of exported data or reports);
 - (iii) details of the data at issue, nature of the issue, previously reported risk which has come to fruition as an issue, impact of the issue on approved and documented Authority Requirements and Data Quality controls, consequential effect on related Data and dependent Data, consequential effect on data in other cited Data Holdings and Data Flow (cited or not cited) managed by the Contractor, Personnel Populations affected, volumes per Personnel Population affected, the timescale in which the issue might escalate in impact, and issues that have been fixed since last reported as an issue;
- (f) From the Operational Service Commencement Date, the Contractor shall provide a Monthly Data Quality Correction Procedure Report which shall contain:
 - (i) issue correction procedures (advocated by the Contractor and agreed by the Authority) for data subjected to Data Quality issues that cannot be eradicated by a fix and which require Authority or user corrective action, where data fails to be fit for purpose as defined by approved and documented Authority Requirements and Data Quality controls that have been applied by the Contractor on behalf of the Authority;
 - (ii) details of the data at issue, the nature of the issue, Personnel Populations affected, volumes per Personnel Population affected, correction procedure agreed with the

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Authority MilPers Data Team, user of and other participants in the correction procedure, activation process of the procedure, procedural steps that need to be followed;

- (g) The reports to be provided from the Operational Service Commencement Date shall be:
 - (i) in a structure and with content agreed with and approved in advance by the Authority MilPers Data Team at the Operational Service Commencement Date;
 - (ii) in an editable electronic format in a medium readily useable by the Authority on a MOD system as agreed with the Authority MilPers Data Team at the Operational Service Commencement Date.

8.10 The Contractor shall provide, maintain, update and issue an industry standard Data Governance and Data Quality Reporting Tool capability for all cited Data Holdings and all cited Data Flows to the Authority MilPers Data Team:

- (a) Providing such capability:
 - (i) within 6 months of the Operational Service Commencement Date, to cover all Data Holdings and all Data Flows at the time of the Operational Service Commencement Date;
 - (ii) from Operational Service Commencement Date, to cover all new Data Holdings and new Data Flows (under development at Operational Service Commencement Date and developed since Operational Service Commencement Date) at the point that Testing starts (or before implementation if there is no Testing); and
 - (iii) all Data Holdings and all Data Flows subject to the Change Control Procedure after Operational Service Commencement Date at the point that Testing starts (or before implementation if there is no Testing);
 - (iv) For the Military Personnel and Veterans MI Reporting Platform within 2 months of completion of a Technical Refresh of the platform after the Operational Service Commencement Date;
- (b) Providing such capability:
 - (i) in which the Authority shall have access to a data management suite with features to include, but not limited to data profiling, data parsing and data standardisation, identity resolution, data cleansing and enhancement, data auditing and monitoring;
 - (ii) in which the Authority shall have access to industry standard Data Quality reporting tools with the capability described above to allow analysis and investigation of all cited Data Holdings and all cited Data Flows;
 - (iii) which the Contractor shall produce, maintain, and make available to the Authority in accordance with Core Hours of Service Availability (as set out in Appendix 1 (Non-Functional Requirements & Service Availability) of Annex M (Technical & Applications) to Schedule 2.1.

Provision of Data Information {H45}

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8.11 From the Operational Service Commencement Date, the Contractor shall provide and maintain 'Data Information Documents' (being documents setting out information about any aspect of Data managed by the Contractor) to the Authority (MilPers Data Team) in an editable electronic format in a medium readily useable by the Authority on a Authority system, in the structure, and with content as agreed with the Authority (MilPers Data Team) for each request:

- (a) on request by the Authority (MilPers Data Team), one or more 'Data Information Documents' (as applicable) about any aspect of Data governance, Data management, Data definition, Data lifecycle (including Data design, implementation, Change, Data retention, Data archive and Data disposal), and Data Quality about any Data items in any Data Holding or any Data Flow from a Data Holding. Such 'Data Information Documents' shall fully disclose the values in the Data at any point in end-to-end processing including in any Data Flow (including any flow not listed in the Mil Pers & Vets Primary Data Flow Register) in or out of any Data Holding, and any transaction states and triggers, and in any staging table holding the Data; and
- (b) where the Authority (Mil Pers Data Team) has requested that a 'Data Information Document' shall be updated on subsequent change automatically update and deliver the document to the Authority (Mil Pers Data Team) when a Data Holding and/or a Data Flow is subject to the Change Control Procedure at the point that Testing starts (or before implementation if there is no Testing).

'Data Quality Controls' document {H46}

8.12 The Contractor shall provide, maintain, update and issue a 'Data Quality Controls' document for each Data Holding and each Data Flow to the Authority (MilPers Data Team):

- (a) within 3 months of the Operational Service Commencement Date, to cover all Data Holdings and all Data Flows at the time of the Operational Service Commencement Date;
- (b) from Operational Service Commencement Date, to cover all new Data Holdings and new Data Flows (under development at Operational Service Commencement Date and developed since Operational Service Commencement Date) at the point that Testing starts (or before implementation if there is no Testing); and
- (c) all Data Holdings and all Data Flows subject to the Change Control Procedure after Operational Service Commencement Date at the point that Testing starts (or before implementation if there is no Testing).

8.13 From the Operational Service Commencement Date, the Contractor shall provide that each 'Data Quality Controls' document in an editable electronic format in a medium readily useable by the Authority on a Authority system, in the structure, and with content as agreed with the Authority (MilPers Data Team) explains for all Data items:

- (a) comprehensive details of the Data Quality controls to ensure Data is fit for purpose as defined by Service Requirements (and any associated technical requirements) and Data Quality controls applied for all Business Data processing and at all points of Data entry, Data processing and Data integration; and

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- (b) the measures applied to structured Data and unstructured Data to ensure the Data is fit for purpose when the data is captured and when held throughout the life of the data from Data design until Data disposal, which shall include:
- (i) details of the Service Requirements that provide the reason for the data to be captured, held and processed, including a specification for the data which describes it, its use and the features that make it fit for purpose;
 - (ii) for Reference Data, details of the presentation and use of Values (including but not limited to the menu selection from a list of Controlled Values);
 - (iii) details of the technical requirements that operate on the Data, including but not limited to any 'Mandatory Data' (being Data for which a Value must be present, to meet the business requirement, technical requirement, and data quality controls) status for record creation and processing purposes, and data standards such as date formats, which are presented in recognised standard format to enable data to be fully exploitable and interoperable with other existing and foreseeable systems;
 - (iv) details of End User information services applied, provided or supported, including but not limited to training and education, instruction and guidance, documentation and screen presentation, data source verification, Data Quality validation, generated help and prompts, structure and format, Controlled Values and formulae;
 - (v) details of how Authority-defined Data Quality characteristics (as defined by the Authority and notified to the Contractor) are applied. including but not limited to completeness, validity, accuracy, consistency and timeliness); and
 - (vi) details of any Contractor provision of processes that monitor the quality of the data.

'Lineage, Derivation, Transformation and Metadata' document {H47}

- 8.14 The Contractor shall provide and maintain a 'Lineage, Derivation, Transformation and Metadata' document for each Data Flow and out of each Data Holding (including where the other sending or receiving Data Holding is not managed by the Contractor) to the Authority (MilPers Data Team):
- (a) within 3 months of the Operational Service Commencement Date, to cover all Data Holdings and all Data Flows at the time of the Operational Service Commencement Date;
 - (b) from Operational Service Commencement Date, to cover all new Data Holdings and new Data Flows (under development at Operational Service Commencement Date and developed since Operational Service Commencement Date) at the point that Testing starts (or before implementation if there is no Testing); and
 - (c) all Data Holdings and all Data Flows subject to the Change Control Procedure after Operational Service Commencement Date at the point that Testing starts (or before implementation if there is no Testing).
- 8.15 The Contractor shall provide that each 'Lineage, Derivation, Transformation and Metadata' document from the Operational Service Commencement Date in an editable electronic format in a medium readily

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useable by the Authority on a Authority system, in the structure, and with content as agreed with the Authority (MilPers Data Team) which shall:

- (a) explain for each cited Data Flow the corresponding Data items in Data Holdings at each end of the Flow (where one of the Data Holdings is not managed by the Contractor to include that Data Holding's data provider's reference information);
- (b) explain metadata details for each Data item including but not limited to the data type (either Reference Data or Dynamic Data), the Reference Data values, any Data mappings, the technical requirements and Service Requirements driving Derivation (being the source(s) of a Data item which from changing the content and/or structure and Data transformation, the 'Mandatory Data' (being Data for which a Value must be present, to meet the business requirement, technical requirement, and data quality controls) and 'Optional Data' (being Data for which a Value may not be present) (and whether 'Mandatory Data' or 'Optional Data' arise from the Service Requirements (and any associated technical requirements) or Data Quality controls), any 'Defaulted Data Values (being a value inserted into the Data structure if no other value is provided for the attribute on creation of a record in the table or file), any indicators and flags, any 'Mapping Rules' (being designed condition applied to the process of transforming Data item value in a sourced Data Holding to be transformed into a meaningful Data item value in a receiving Data Holding) and 'Mapping Codes' (being Reference Data value specifically to allow Data item value in a sourced Data Holding to be transformed into a meaningful Data item Value in a receiving Data Holding), and the Data Quality validation and Data Quality controls;
- (c) explains all Data items at table and column level of granularity;
- (d) is presented in a structure and with content agreed with and approved in advance by the Authority MilPers Data team at the Operational Service Commencement Date; and
- (e) is presented in an editable electronic format, in a medium readily useable by the Authority on a Authority system as agreed with the Authority (MilPers Data Team) at the Operational Service Commencement Date.

Reference Data Change Information Report {H48}

- 8.16 The Contractor shall provide, maintain, update and issue a 'Reference Data Change Information Report' (being a report to provide information about how Reference Data can be changed) to the Authority (MilPers Data Team) for all cited Data Holdings and all cited Data Flows:
- (a) within 3 months of the Operational Service Commencement Date, to cover all Data Holdings and all Data Flows at the time of the Operational Service Commencement Date;
 - (b) from Operational Service Commencement Date, to cover all new Data Holdings and new Data Flows (under development at Operational Service Commencement Date and developed since Operational Service Commencement Date) at the point that Testing starts (or before implementation if there is no Testing); and
 - (c) all Data Holdings and all Data Flows subject to the Change Control Procedure after Operational Service Commencement Date at the point that Testing starts (or before implementation if there is no Testing).

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8.17 From the Operational Service Commencement Date, the Contractor shall provide that each 'Reference Data Change Information Report' in an editable electronic format in a medium readily useable by the Authority on a Authority system, in the structure, and with content as agreed with the Authority (MilPers Data Team) which shall:

- (a) explains the technical structure of each Reference Data item (including but not limited to: a simple List of Values; a parent/child hierarchy (where one Data item is logically the owner of another in business terms, so that the owner, the "Parent", may have own one or more instances (or none) of the subordinate Data item, the "Child"); embedded in a table structure with supporting code); and

explains the time, resource and technical complexity of change to make an addition, an amendment and a deletion to the Reference Data values, to sufficiently understand the amount of time taken typically to make such changes, the levels and resource skills required typically for such changes, and the degree of technical complexity).