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System

Parties: The Secretary of State for Defence; Ascent Flight Training (Management) Limited

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TSP AGREEMENT (and Related Documents) \* TSP Agreement and Schedule A to Schedule E \*

[SCHEDULES] \* SCHEDULE B: STATEMENT OF REQUIREMENT

# **SCHEDULE B: STATEMENT OF REQUIREMENT**

# TRAINING SYSTEM PARTNER

## STATEMENT OF REQUIREMENT

## 1. General

- 1.1 The definitions and principles of interpretation set out in Schedule A (Definitions) shall apply to this Schedule and any terms used within this Schedule shall have the meaning given to them in Schedule A (Definitions) unless otherwise defined herein.
- 1.2 In the event of any ambiguity, inconsistency, uncertainty or conflict between the parts of this Schedule, the descending order of priority in which such parts shall prevail is as follows:
  - (A) General;
  - (B) the Principal Requirement;
  - (C) the Overarching Constraints;
  - (D) paragraph 4 and Tables 4.1 to 4.6 of this Schedule; and
  - (E) the Annexes to this Schedule.
- 1.3 In the event of any ambiguity, inconsistency, uncertainty or conflict between the following documents that are prepared, maintained, updated and delivered by the TSP, the descending order of priority in which the respective documents shall prevail is as follows (unless agreed otherwise by the Parties):
  - (A) Training Strategy
  - (B) TNA Final Report
  - (C) Dynamic Pipeline Model
  - (D) System Implementation Plan
  - (E) Course Documentation
  - (F) Training Service Requirements Documents
  - (G) Training Service Implementation Plans
- 1.4 No certification or final acceptance of any type by the Authority in relation to the requirements of this

Schedule B shall have the effect of waiving, diminishing or detracting from the TSP's duties, obligations, responsibilities and liabilities pursuant to this Agreement unless and only to the extent expressly stated in this Schedule B.

#### 1.5 Configuration Control

- (A) The TSP shall ensure that the TSD and all Deliverable Documents and their constituent parts are maintained and updated to ensure that they accurately reflect and embody any changes agreed by the Parties in accordance with this Schedule B and the procedure set out in this paragraph 1.5.
- (B) In all cases any proposed amendment to the TSD or the Deliverable Documents (other than TSIPs) shall be subject to the prior written approval of the Authority, and in relation to TSIPs shall be subject to the Authority's approval in accordance with the liaison procedures in Schedule E and Annex A of the relevant Training Service Schedule. All such proposed amendments and any drafts not so approved by the Authority shall be clearly marked as "DRAFT".
- (C) In the event that the parties fail to agree any proposed amendments to the TSD or the Deliverable Documents, the matter shall be referred for resolution in accordance with the Dispute Resolution Procedure.
- (D) Following approval of any amendment to the TSD or the Deliverable Documents by the Authority, the TSP shall promptly issue to the Authority two copies (one in hard copy and one electronic copy on CD-ROM, DVD or other electronic media agreed between the Parties) of a revised version of the TSD or of each such Deliverable Document embodying such agreed change, clearly indicating all changes from the preceding version and clearly marked with a unique issue number and the date of issue.
- (E) When it issues a revised version of any of the TSD or the Deliverable Documents the TSP shall also issue a control document (the "**Master Deliverable Documents Configuration Control Sheet**") that identifies the current issue number and the date of issue of the TSD and all Deliverable Documents.

## 2. Principal Requirement

The TSP shall design, develop, provide, maintain and update the training services to meet the training standards defined in the OCU Input Standard Datapack version 6.0 dated October 2006 and to meet the quantities defined in the Statement of User Need version 6.1 dated 18 January 2007, as these documents are amended from time to time (subject, in respect of Committed Training Services, to Clause 49), and shall provide training to aircrew to meet these standards and quantities.

# 3. Overarching Constraints

- 3.1 Overarching Constraints are obligations upon the TSP which affect all parts of the Training System.
- 3.2 The Overarching Constraints that apply to the Training System, in addition to those expressly stated in the annexes to this Schedule B, Schedule D and the Agreement are:
  - (A) Authority Regulations
  - (B) all training will be conducted within a military command structure
  - (C) Authority Student selection
  - (D) training diversions as specified in the Statement of User Needs as amended from time to time
  - (E) airspace access agreements
  - (F) DSAT QS and DTSM.

## 4. Requirements

- 4.1 The TSP shall deliver to the Authority the Services:
  - (A) set out in column C of Tables 4.1 to 4.6 below; and
  - (B) shall produce and deliver to the Authority the Deliverable Documents listed in column D of Tables 4.1 to 4.6,

in order to comply with the Principal Requirement and the Overarching Constraints.

4.2 The columns headings are:

- (A) Column A "**Ref**" the unique identifier for each requirement.
- (B) Column B "Task" the short unique title for each requirement.
- (C) Column C "Requirement" the description of the obligation required to be performed by the TSP
- (D) Column D "**Deliverable Documents**" the documents that the TSP shall prepare and deliver to the Authority to meet the requirement.

**Table 4.1** 

4.1.1. TF	4.1.1. TRAINING DESIGN			
A	В	С	D	
Ref	Task	Requirement	Deliverable Documents	
4.1.1	Training Strategy	At the Date of Agreement the TSP shall have produced and delivered to the Authority a Training Strategy and shall thereafter maintain and update the Training Strategy.  The TSP shall deliver the Training Strategy and updates to the	Training Strategy and updates to the Training Strategy in accordance with Annex 1 to this Schedule B	
4.1.2	Training Needs	Training Strategy in accordance with Annex 1 to this Schedule B  The TSP shall carry out Training Needs Analyses for each Aircrew	TNA Final Reports in accordance	
	Analysis	Specialisation in accordance with the timescales set out in the System Implementation Plan or as required.	with Annex 2 to this Schedule B	
		The TSP shall deliver TNA Final Reports in accordance with Annex 2 to this Schedule B.		
	Training System Design (TSD)	At the Date of Agreement the TSP shall have produced and delivered to the Authority a TSD (save that in the case of the Dynamic Pipeline Model only, the TSP shall have demonstrated the existence thereof by means of a static diagram of the training pipeline together with the assumptions and business rules that were applied to the Dynamic Pipeline Model and used to develop the TSD) and shall thereafter maintain and update the TSD so that it accurately reflects the Course Documentation and the Plans.	TSD Compliance Demonstration Reports in accordance with Annex 3 to this Schedule B	
		The TSD shall comprise:		
		<ul> <li>The Training Strategy referred to at Ref 4.1.1 above;</li> </ul>		
		<ul> <li>any relevant Training Needs Analyses for Aircrew Specialisations and Instructors referred to at Ref 4.1.2 above;</li> </ul>		
		<ul> <li>any Course Documentation referred to at Ref 4.1.4 below; and</li> </ul>		
		a Dynamic Pipeline Model		
		The TSP shall carry out TSD Compliance Demonstrations and deliver TSD Compliance Demonstration Reports in accordance with Annex 3 to this Schedule B		
4.1.3A	Dynamic Pipeline Model	From the Date of Agreement the TSP shall provide the Authority with the following Services:		
		<ol> <li>2 runs per month of the Dynamic Pipeline Model, the output to be delivered as requested by the Authority within 5 Business Days of the request (or as otherwise agreed); and</li> </ol>		
		(2) from a date no later than 10 months after the Date of Agreement:		

		<ul> <li>(a) the TSP shall ensure that a dedicated remote terminal shall be available at the headquarters together with appropriately qualified and experienced personnel who have access to the Dynamic Pipeline Model toolset, for the purpose of running queries as requested by the Authority on the Dynamic Pipeline Model and in accordance with 4.1.3A(1);</li> <li>(b) the TSP shall facilitate the observation by the Authority of all runs undertaken via the remote terminal;</li> </ul>	
		(c) the TSP shall have entered into a Sub-Contract with Lockheed Martin Corporation (the terms and conditions of which have been agreed with the Authority) for the provision of the Services under 4.1.3A(1) and (2)(a) and (b);	
		(d) the TSP shall procure that any necessary amendments are made to any applicable Technical Assistance Agreement (TAA) as described in Clause 71.7(A) in order to secure all access or other rights needed to provide such Services.	
		3. Should the TSP fail to meet its obligations under 4.1.3A(2) above by the date 10 months after the Date of Agreement, it shall forthwith provide a Dynamic Pipeline Model to the Authority in an alternative form acceptable to the Authority which allows the TSP to comply with all its obligations under this Agreement relating to the Dynamic Pipeline Model.	
4.1.4	Course Documentation	The TSP shall provide Course Documentation for the training of all students in accordance with Annex 4 to this Schedule B.	Course Documentation in accordance with Annex 4 to this Schedule B

# Table 4.2

4.2. ACQ	4.2. ACQUISITION			
Α	В	С	D	
Ref	Task	Requirement	Deliverable Documents	
4.2.1	System Implementation Plan (SIP)	2 Business Days after the Date of Agreement the TSP shall have prepared and delivered to the Authority a SIP that covers the activities necessary to deliver the Training System Design and shall thereafter maintain and update the System Implementation Plan.  The TSP shall deliver updates to the System Implementation	System Implementation Plan and updates to the System Implementation Plan in accordance with Annex 5 to this Schedule B	
		Plan in accordance with Annex 5 to this Schedule B.		
4.2.2	TSE Package Acquisition	The TSP shall provide, maintain and update:  • technical requirements for all TSE and Authority TSE;	Acquisition Initiation Documents in accordance with Annex 6 of this Schedule B.	
		<ul> <li>documentation for the carrying out of all tendering activities and the evaluation of tenders; and;</li> <li>data, information and supporting documentation relating to the management of the project and the commercial terms and conditions of TSE Packages and associated subcontracts and other contractual documentation.</li> </ul>	<ol> <li>Training Service Acquisition Demonstration Reports in accordance with Annex 7 of this Schedule B.</li> <li>IGBC Data Packs in accordance with Annex 8 of this Schedule B.</li> </ol>	

and shall enter into TSE Package Contracts in accordance with 4. MGBC Data Packs in accordance Clause 15 and 16 of the Agreement. with Annex 9 of this Schedule B. The TSP shall deliver Acquisition Initiation Documents, Training 5. RN Data Packs in accordance Service Acquisition Demonstration Reports, IGBC Data Packs, with Annex 10 of this Schedule B MGBC Data Packs, RN Data Packs, Training Service Acquisition Documentation and Training Service Investment 6. Training Service Acquisition Recommendation Reports in accordance with Annexes 6, 7, 8, Documentation in accordance with Annex 11 of this Schedule B 9, 10, 11 and 12 of this Schedule B respectively. 7. TSE Package Investment Recommendation Report in accordance with Annex 12 of this Schedule B

## Table 4.3

A	В	с	D
Ref	Task	Requirement	Deliverable Documents
4.3.1	Compliance Demonstration	The TSP shall devise and carry out testing and compliance demonstrations of each of the Training Services to demonstrate to the Authority that the Training Services (and the TSE and Courses that comprise them) are compliant with the requirements of the Agreement and in particular with this Schedule B and the relevant Training Service Schedules.  The TSP shall deliver Training Service Compliance Test Specifications, RFTU Compliance Demonstration Reports and Course Implementation Compliance Demonstration Reports in accordance with Annexes 13, 14 and 15 of this Schedule B respectively	Training Service Compliance Test Specifications in accordance with Annex 13 of this Schedule B     RFTU Compliance Demonstration Reports in accordance with Annex 14 of this Schedule B     Course Implementation Compliance Demonstration Reports in accordance with Annex 15 of this Schedule B

# Table 4.4

4. BUSINESS MANAGEMENT			
A	В	С	D
REF	Task	Requirement	Deliverable Documents
4.4.1	Forecast of Training Throughput and Training System Resources	Programme and a Costed Resource Forecast.  The TSP shall deliver Flying Training Programmes and Costed Resource Forecasts in accordance with Annexes 17 and 18 of this Schedule B respectively.	Flying Training Programmes in accordance with Annex 17 of this Schedule B     Costed Resource Forecasts in accordance with Annex 18 of this Schedule B
4.4.2	Incurred Cost Reporting		Incurred Cost Reports in accordance with Annex 19 of this Schedule B

# Table 4.5

# 4.5. TRAINING DELIVERY

A	В	С	D
Ref	Task	Requirement	Deliverable Documents
4.5.1	Training Delivery	The TSP shall deliver training to students in accordance with the Annual FTP and the Course Documentation.	
4.5.2	Student Training Records	The TSP shall maintain and update records in relation to the delivery of training to each student and provide Student End Of Class Reports in accordance with Annex 20 and Student End Training Reports in accordance with Annex 21.	<ol> <li>Student End Of Class Reports in accordance with Annex 20 of this Schedule B</li> <li>Student End Of Training Reports in accordance with Annex 21 of this Schedule B.</li> </ol>
4.5.3	Class Training Records	The TSP shall maintain and update records in relation to the delivery of training to each Class and provide Class Completion Reports in accordance with Annex 22 of this Schedule B.	Class Completion Reports in accordance with Annex 22 of this Schedule B

# Table 4.6

4.6. TRAINING VALIDATION			
Α	В	С	D
Ref	Task	Requirement	Deliverable Documents
4.6.1	Training System Reporting	The TSP shall provide reports showing actual performance of the Training System compared against expected performance and identifying rectification action.	Training System Performance Reports in accordance with Annex 23 of this Schedule B.
		The TSP shall deliver Training System Performance Reports in accordance with Annex 23 of this Schedule B.	
4.6.2	Training System Validation	The TSP shall devise and carry out testing of the Training System (and each Training Service that comprises it) in order to demonstrate that the Training System (and the Training Services that comprise it) complies with the Agreement and in particular the Principal Requirement and the Overarching Constraints.	in accordance with Annex 24 of this
		The TSP shall deliver Training System Validation Reports in accordance with Annex 24 of this Schedule B respectively.	

# ANNEXES

# **ANNEX 1 TRAINING STRATEGY**

# 1. DELIVERABLE TITLE

# TRAINING STRATEGY

# 2. REQUIREMENT

The TSP shall provide the Authority with a Training Strategy and updates to the Training Strategy that set out:

- guidance for the implementation of DSAT QS for UKMFTS;
- strategic training policies, philosophy and doctrines that describe a structured management of training in accordance with DSAT QS.
- guidance for the preparation and the content of the Training System Design and Course

Documentation in accordance with DTSM 1;

- the roles, responsibilities, processes and procedures for;
  - o the assessment of students and Instructors;
  - o the evaluation of training including internal and external validation of training in accordance with DTSM 4;
  - o the accreditation of training;
  - o quality management of training including audits, inspections and standards checks in accordance with DTSM 6;
  - o the review and management of Course Documentation;
- changes from the last formal and agreed issue of the Training Strategy.

## 3. REFERENCES

This deliverable shall comply with:

• Ref 4.1.1 of Table 4.1 to Schedule B

## 4. SPECIFIC CONSTRAINTS

# **Authority Constraints:**

None

## **Controlling Documents:**

None

# 5. DELIVERY

The Training Strategy shall be delivered to the Authority at the Date of Agreement and all updates to the Training Strategy shall be delivered to the Authority not later than 21 Business Days following agreement between the Parties to make a change to the Training Strategy, and such updates shall reflect the agreed changes.

# 6. AUTHORITY ACTIVITIES

# **Authority Obligations:**

• The Authority shall confirm in writing whether the TSP is required to make changes to the Training Strategy.

# **Optional Authority Inputs:**

- The Authority may at its option make available any relevant reports or documents that could influence the agreed Training Strategy.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

# **ANNEX 2 TNA FINAL REPORT**

# 1. DELIVERABLE TITLE

# TNA FINAL REPORT

# 2. REQUIREMENT

The TSP shall provide the Authority with TNA Final Reports that shall:

- analyse and specify the requirement for training for the relevant Aircrew Specialisation;
- analyse the cost and benefits of the training solutions that satisfy the requirement for training;

- identify and define all of the Training Objectives that satisfy the requirement for training;
- · define the options as to methods of training delivery;
- identify the key characteristics of the resources required to deliver the training, including:
  - o TSE and other resources;
  - o Course duration and structure; and
  - o student assessment methodology.
- make a recommendation as to the training solution which if incorporated into the Training System Design would meet the Principal Requirement for the relevant Aircrew Specialisation.

The TNA Final Report shall be a full report of all TNA analyses and recommendations and shall collate all parts of the TNA. It shall include in accordance with DSAT QS or as set out in the relevant TNA Part 1 Scoping Study Report (and as such terms are defined in DSAT QS and the relevant DTSM):

• Operational/Business Task Analysis (or "OTA").

The output of this part of the TNA Final Report shall be the preliminary Operational Performance Statement (or "**OPS**") or Competence Framework (or "**CF**").

• Training Gap Analysis (or "TGA").

The output of this part of the TNA Final Report shall be statements of training gaps and associated implications against the operational and business requirement. It shall identify and define the Training Objectives and an initial analysis of the new training system and requirement which can be taken forward to inform the Training Options Analysis.

• Training Options Analysis (or TOA").

The output of this part of the TNA Final Report shall be a recommendation as to the most cost effective and optimal training solution.

# · Final Report.

The output of this part of the TNA Final Report shall be a recommended training solution, draft Operational Performance Statement (OPS) or Competence Framework (CF) and draft Formal Training Statement (FTS).

• The evaluation of the conduct of the TNA (the "**Post Project Evaluation**" or "**PPE**") that is an assessment of how well the TNA products and its associate management contributed to the provision of a training requirement to meet the operational/business requirement.

# 3. REFERENCES

This deliverable shall comply with:

• Ref 4.1.2 of the Table 4.1 of Schedule B

## 4. SPECIFIC CONSTRAINTS

# **Authority Constraints:**

- The TNA Final Report shall comply with DSAT QS (as amended from time to time) including:
  - o DTSM1 The Analysis, Design and Development of Training
  - o DTSM3 Training Needs Analysis

# **Controlling Documents:**

The TNA Final Report shall be prepared in accordance with:

- a TNA Part 1 Scoping Study Report that sets out the management of the TNA project, areas of risk, programming and resourcing issues, policies, assumptions and constraints, and those personnel affected by the requirement, and highlights issues which could impact upon, or will need to be considered during preparation of the TNA Final Report; and
- the Training Strategy.

## 5. DELIVERY

The TSP shall deliver to the Authority a TNA Final Report:

- 3 calendar months (or such other reasonable period as is agreed in writing by the Parties) after the date of on each of the occurrence of:
  - o a change in initial input standards;
  - o a change to input or output standards for a Course;
  - o a change to the OCU Input Standards Datapack; or
  - o following Training Validation or a Performance Management Report that identifies a failure of the Training System to meet the requirement and recommends that a Training Needs Analysis needs to be carried out.

or

• on the dates specified in the System Implementation Plan.

## 6. AUTHORITY ACTIVITIES

# **Authority Obligations:**

- The Authority shall provide such information and data as may be reasonably required by the TSP in order to produce a TNA Part 1- Scoping Study.
- The Authority shall carry out a review of the draft TNA Final Report (prior to formal submission by the TSP) in accordance with the relevant TNA Part 1 Scoping Study Report.

## **Optional Authority Inputs:**

- The Authority may at its option review and provide input from relevant subject- matter experts to OTA, TGA and TOA, in accordance with Schedule E.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

# **ANNEX 3 TSD COMPLIANCE DEMONSTRATION REPORT**

# 1. DELIVERABLE NAME

# **TSD COMPLIANCE DEMONSTRATION**

# 2. REQUIREMENT

The TSP shall demonstrate to the Authority that:

- the Training System Design meets the Principal Requirement; and
- the Plans and any Training Service Requirement Documents are accurately reflected in the TSD.

and, in respect of each TSD Compliance Demonstration, the TSP shall provide the Authority with a TSD Compliance Demonstration Report that includes;

- confirmation that the TSD complies with:
  - o Ref 4.1.3 of Table 4.1 of Schedule B;
  - o Part 3A of the Agreement;
  - o Clause 18A of the Agreement;
  - o the Principal Requirement;
  - o the Overarching Constraints;
  - o any constraints specified in any TSRD; and
  - o the Training Strategy;
- confirmation that the:
  - o changes from the previous version of the TSD have been properly modelled in the Dynamic

Pipeline Model;

- o configuration control of the TSD and the Plans, and the changes to them, have been properly maintained and recorded;
- o the information and data contained within the TSD accurately and consistently reflects the Plans and any TSRD;
- a record of all modelling changes to the Dynamic Pipeline Model including changes to any algorithms, macros or executable code embedded in the Dynamic Pipeline Model; and
- a record of the TSD Compliance Demonstration activities and results.

## 3. REFERENCES

This deliverable shall comply with:

- Ref 4.1.3 of Table 4.1 to Schedule B; and
- Clause 18A of the Agreement

## 4. SPECIFIC CONSTRAINTS

# **Authority Constraints:**

None

## **Controlling Documents:**

None

## 5. DELIVERY

The TSP shall carry out a TSD Compliance Demonstration and shall deliver a TSD Compliance Demonstration Report:

- on such dates as are specified in the relevant TSIP or, if not so specified, 40 Business Days prior to:
  - o each of the dates for the submission of the relevant Initial Gate Business Case (IGBC), Main Gate Business Case (MGBC) and Review Note (RN); and
  - o each date when a relevant Uncommitted Training Service becomes a Committed Training Service;

and

• within 10 Business Days (or such other reasonable period as is agreed in writing by the Parties) following a proposal by either Party (in accordance with the Training Strategy) to amend the Course Documentation that affects either the Training Objectives, Enabling Objectives or Assessment Strategy of the relevant Course.

# 6. AUTHORITY ACTIVITIES

# **Authority Obligations:**

None

# **Optional Authority Inputs:**

None

# **ANNEX 4 COURSE DOCUMENTATION**

## 1. DELIVERABLE TITLE

# **COURSE DOCUMENTATION**

# 2. REQUIREMENT

The TSP shall produce, maintain, update and issue Course Documentation which shall define and detail the training for all Students (including ab-initio students, instructors and ad hoc trainees).

In relation to each Course, the Course Documentation shall include:

- an Operational Performance Statement (as defined in DSAT\_QS and in particular DTSM1);
- · a Formal Training Statement;
- · a Course Specification;
- · Instructional Specifications;
- Assessment Strategy (as defined in DSAT QS and in particular DTSM1);
- · Assessment Specifications (as defined in DSAT QS and in particular DTSM1); and
- · Courseware;

and shall set out the details of what the students will be taught, including:

- the content and the Training Objectives of the Course;
- the Enabling Objectives that meet the Training Objectives;
- · the Training Events that meet the Enabling Objectives and Training Objectives;
- how the Enabling Objectives are to be taught:
  - o whether on the ground, in the classroom, with instruction, using training media such as a flight simulator, part-task trainer or self-taught using computer-based learning or manuals;
  - o whether in aircraft;
  - o the timescales, order and sequence of Training Events
- details of the TSE and any other resources required in order to provide the Course and the Training Events, including:
  - o equipment;
  - o infrastructure (e.g. classrooms);
  - o Courseware;
  - o aircraft;
  - o ground-based training media such as personal learning devices, procedural trainers, part-task Trainers, full mission simulators etc.
  - o Instructors and the details of their:
    - type (e.g. whether ground-based or flying instructors);
    - number;
    - qualifications; and
    - the training that they require in order to instruct;
- the strategy or method of assessing and evaluating the performance of the students, including:
  - o assessment type (i.e. whether by examination, skills test);
  - o the pass/fail criteria; and
  - o the records of assessment
- the time included for Service Diversions as set out in the Statement of User Need; and
- $\bullet\,$  the Course Completion Criteria for the purposes of paragraph 5.5 of Schedule F

including any technical manuals or instructions used by students and instructors.

# 3. REFERENCES

This deliverable shall comply with:

• Ref 4.1.4 of Table 4.1 of Schedule B

#### 4. SPECIFIC CONSTRAINTS

## **Authority Constraints:**

· Course Documentation shall comply with DSAT QS and in particular DTSM1.

## **Controlling Documents:**

 Course Documentation shall be consistent with the Training System Design and the relevant TNA Final Report.

#### 5. DELIVERY

The TSP shall prepare and deliver to the Authority Course Documentation:

- in accordance with the relevant Training Service Schedule; and
- in relation to any Course that has achieved Course Certification in accordance with Clause 25.2, within 10 Business Days following the Authority's agreement to a proposal to amend any Course Documentation, where a proposal to amend Course Documentation is required in accordance with the Training Strategy; and
- in accordance with any Change agreed in accordance with Clause 49.

## 6. AUTHORITY ACTIVITIES

# **Authority Obligations:**

Such Authority Obligations as are expressly stated in the relevant Training Service Schedule.

# **Optional Authority Inputs:**

- The Authority may at its option provide Authority SME input to the development of Course Documentation development.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

## **ANNEX 5 SYSTEM IMPLEMENTATION PLAN (SLP)**

## 1. DELIVERABLE NAME

# **SYSTEM IMPLEMENTATION PLAN (SIP)**

# 2. REQUIREMENT

The TSP shall provide the Authority with a SIP and updates to the SIP that accurately reflect and embody any changes, agreed by the Parties, to the TSD and the Training Service Implementation Plans:

The SIP and any update to the SIP shall cover the period from the Date of Agreement to the date of the implementation and certification of the last new Course in the TSD and shall include:

- (A) a programme plan (the "**SIP Programme Plan**") in the form of a GANTT chart or similar graphical representation that:
  - (1) shows all major milestones for each Training Service identified in the TSD derived from the relevant Training Service Implementation Plans including:
    - the Acquisition Commencement Date for each Training Service;
    - the dates for the provision of the following Core Deliverables:
      - updates to the Training Strategy (where relevant);
      - TNA Final Report;
      - TSD Compliance Demonstration Report;
      - Acquisition Initiation Document;
      - Training Service Acquisition Demonstration Report;

- Initial Gate Business Case Data Pack;
- Main Gate Business Case Data Pack;
- Review Note Data Pack;
- Training Service Acquisition Documentation; and
- Training Service Investment Recommendation Report
- the dates when Uncommitted Training Services become Committed Training Services;
- · all RFTU dates; and
- all Course Certification dates
- (2) uses a unique identification reference for each such milestone that is consistent with the identification references used in the relevant Training Service Implementation Plans;
- (B) a narrative description (the "**SIP Management Plan**") of the SIP Programme Plan that includes the details of any assumptions from the Master Data Assumptions List (MDAL) referred to at paragraph 3 of Annex 25 of this Schedule B, or any other information that explains the sequencing and timing of each milestone in the SIP Programme Plan.

# 3. STATEMENT OF REQUIREMENT/AGREEMENT REFERENCES

This deliverable shall comply with:

- Ref 4.2.1 of Table 4.2 of Schedule B; and
- Clause 13 of the Agreement.

## 4. SPECIFIC CONSTRAINTS

# **Authority Constraints:**

• The SIP shall be consistent with and reflect the Annual FTP and the Costed Resource Forecast current at the time that the SIP is updated.

## **Controlling Documents:**

None

# 5. DELIVERY

The TSP shall deliver the SIP to the Authority within 2 Business Days of the Date of Agreement; and shall deliver updates of the SIP to the Authority:

- at the same time as the delivery of the Costed Resource Forecast each year; and
- at the same time as the delivery of each IGBC Data Pack, MGBC Data Pack and RN Data Pack; and
- · at the same time as an Uncommitted Training Service becomes a Committed Training Service; and
- within 10 Business Days of agreed changes to any Course Certification dates and to any RFTU dates.

# 6. AUTHORITY ACTIVITIES

# **Authority Obligations:**

• None

# **Optional Authority Inputs:**

- The Authority at its sole option may provide ongoing support from Flying Training Headquarters staff to answer questions as the SIP is being updated.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

# **ANNEX 6 ACQUISITION INITIATION DOCUMENT**

## 1. DELIVERABLE NAME

# **ACQUISITION INITIATION DOCUMENT**

# 2. REQUIREMENT

In relation to each Training Service as specified in the TSD and the SIP, the TSP shall produce and deliver to the Authority an Acquisition Initiation Document that shall include:

- a Training Service Implementation Plan in relation to the relevant Training Service;
- an update to the Risk Register and MDAL to include the risks and assumptions that could affect the achievement of the requirements of the Training Service and consequential effects on the Training System;
- Authority constraints as notified to the TSP by the Authority, including limitations and requirements regarding the acquisition, implementation, delivery and provison of the Training Service and associated TSE, highlighting any issues this creates with implemention of a training solution that meets the TSD, so as to enable key stakeholders to understand the framework against which decisions on procurement strategy have been made and the opportunity to challenge such constraints, limitations and requirements where required.
- confirmation as to the details of the relevant OCU Input Standards Datapack as it relates to the Training Service
- an outline TSRD that shall:
  - o identify all TSE that are planned to be included in the Training Service and how these TSE will contribute to satisfying the OCU Input Standards Datapack;
  - o specify the essential and mandatory requirements of the Training Service; and
  - o specify all requirements that relate to Authority TSE and TSS Specific Dependencies (the "Service Level Agreements" or "SLAs").
- a stakeholder engagement strategy that identifies all of the stakeholders with an interest or role within the project together with:
  - their role or interest in the project;
  - the method for obtaining their 'engagement'; and
  - the activities and milestones that will prompt the engagement.

## stakeholders shall include:

- the sponsor community;
- the user community;
- the Defence Equipment and Support assurance community;
- the industry community;
- an approval plan that shall:
  - define the method of obtaining approvals, technical, financial and legal & contractual assurance; and
  - identify and specify the timescales for the provision of the Authority Obligations in respect of the relevant IGBC Data Pack, MGBC Data Pack and any RN Data Packs.
- an outline procurement strategy that:
  - o details the TSP's proposed options for procurement of the TSE and the TSE Package Contracts necessary to deliver the Training Service, including the methods of tendering, contracting and obtaining finance for each TSE Package Contract, and shall:
    - record whether the TSE Package Contracts of the Training Service are 1B, 2B or 2A TSE Package Contracts;
    - state the identity of any 2B TSE Package Contracts that any member of the TSP Group or a TSP Associated Company has expressed, or might reasonably be expected to express, an interest in bidding for; and

- detail any conflicts of interest and how the TSP proposes to resolve or manage them pursuant to Clause 16.3 of the Agreement;
- o the outline procurement strategy shall be reflected in, and be consistent with the relevant TSIP.
- the information provided by the Authority pursuant to Part 6 of this Annex 6.

## 3. REFERENCES

The Acquisition Initiation Document shall comply with:

- Ref 4.2.2 of Table 4.2 to Schedule B; and
- Clause 15.2 of the Agreement.

# 4. SPECIFIC CONSTRAINTS

#### **Authority Constraints:**

None

## **Controlling Documents:**

The Acquisition Initiation Document shall be consistent with the:

- · System Implementation Plan; and
- the Training System Design

#### 5. DELIVERY

The TSP shall produce and deliver to the Authority an Acquisition Initiation Document:

- on each Acquisition Commencement Date as set out in the System Implementation Plan; or
- 20 Business Days after the provision by the Authority of the Authority Obligations described in Part 6 of this Annex 6 in relation to each Acquisition Commencement Date,

whichever is the later.

# 6. AUTHORITY ACTIVITIES

# **Authority Obligations:**

- The Authority shall:
  - o provide details of any Authority constraints, limitations or requirements pertaining to the planned Training Service acquisition;
  - o  $\,$  in respect of the relevant Training Service and Aircrew Specialisations, provide
    - confirmation that the OCU Input Standards Datapacks have not changed; or
    - details of the changes to the OCU Input Standards Datapacks.
  - o provide details of the Authority's approval and assurance requirements;
  - o categorise each of the relevant TSE Package Contracts that comprise the relevant Training Service as either 1B, 2B or 2A Contracts.

## **Optional Authority Inputs:**

- The Authority may at its option provide input from relevant Authority SMEs.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

# ANNEX 7 TRAINING SERVICE ACQUISITION DEMONSTRATION REPORT

# 1. DELIVERABLE NAME

TRAINING SERVICE ACQUISITION DEMONSTRATION

# 2. REQUIREMENTS

In respect of each Training Service specified in the TSD and the SIP, the TSP shall carry out a Training Service Acquisition Demonstration that shall demonstrate to the Authority that the relevant Training Service Requirements Document and Training Service Implementation Plans have been provided and are:

- compliant with the relevant parts of the Training System Design (TSD);
- compliant with the relevant Acquisition Initiation Document (save to the extent that the parties agree that the relevant Acquisition Initiation Document has been superseded); and
- accurately reflected in the System Implementation Plan (SIP);

and, in respect of each Training Service Acquisition Demonstration the TSP shall produce a Training Service Acquisition Demonstration Report that includes:

- confirmation that the relevant Training Service Requirement Document meets the:
  - o the Training Standards specified in the relevant OCU Input Standards Data Pack; and
  - o the Training Capacity Requirements specified in the Statement of User Needs (SUN);
- confirmation that the relevant Training Service Implementation Plans are accurately reflected in the SIP;
- · confirmation that:
  - o the specifications and requirements that are proposed to be included in each TSE Package Contracts (the "CSORs") that comprise the Training Service;
  - o the specifications of Authority TSE and TSE Package Specific Dependencies that are proposed to be included in the relevant Training Service Schedule (the "**SLAs**"); and
  - o the TSIP that is proposed to be included in the relevant proposed Training Service Schedule;

meet the requirements set out in the:

- o the relevant Training Service Requirement Document;
- o the SIP; and
- o the Authority's constraints and requirements set out in the relevant Acquisition Initiation Document (save to the extent that the parties agree that the relevant Acquisition Initiation Document has been superseded);
- a requirements map that shows how each of the requirements set out in the relevant CSORs and SLAs contribute to meeting the Training Service Requirements Document and thereby how the Training Service will thereby meet the Principal Requirement; and
- a register of all of the supporting data and documentation (including the relevant CSORs, SLAs and the Training Service Implementation Plan) that form the evidence for the Training Service Acquisition Demonstration, indicating the status of the data and documentation and confirming whether it is at the agreed level of maturity and detail for the type of approval being sought as set out in the Acquisition Initiation Document.

# 3. REFERENCES

This deliverable shall comply with:

- Ref 4.2.2 of Table 4.2 of Schedule B; and
- Clause 18A of the Agreement

# 4. SPECIFIC CONSTRAINTS

# **Authority Constraints:**

• None

## **Controlling Documents:**

None

#### 5. DELIVERY

The TSP shall carry out a Training Service Acquisition Demonstration and shall deliver a Training Service Acquisition Demonstration Report:

- on such dates as are specified in the relevant TSIP, or if not so specified ,40 Business Days prior to:
  - o each of the dates for the submission of the relevant Initial Gate Business Case (IGBC), Main Gate Business Case (MGBC) and Review Note (RN); and
  - o each date when a relevant Uncommitted Training Service becomes a Committed Training Service;

as such dates are set out in the SIP; and

• 10 Business Days (or other reasonable period as agreed in writing between the parties) following a request by the Authority.

## 6. AUTHORITY ACTIVITIES

# **Authority Obligations:**

None

## **Optional Authority Inputs:**

- The Authority may at its option provide input from personnel with expertise in Investment Appraisal Board (IAB) Business Cases and from Authority SMEs in respect of the Training Service being acquired.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

# ANNEX 8 INITIAL GATE BUSINESS CASE DATA PACK ("IGBC DATA PACK")

## 1. DELIVERABLE NAME

# INITIAL GATE BUSINESS CASE PACK ("IGBC DATA PACK")

# 2. REQUIREMENT

In relation to each Training Service specified in the TSD and the SIP, the TSP shall prepare and deliver to the Authority an IGBC Data Pack that:

- sets out the supporting data, information and analyses of the range of the technical and commercial options (the "**Proposed Training Service Options**") that meet the relevant parts of the TSD;
- for each Proposed Training Service Option, sets out:
  - o the details of the associated options and trade-offs for performance, time and through-life cost; and
  - o the risks in the design, development, construction, acquisition, implementation, installation, delivery, commissioning, certification and provision;
- sets out how Value For Money will be assessed and measured at a future Main Gate Business Case.

# The IGBC Data Pack shall include:

- an update to the TSIP in respect of the Proposed Training Service Options;
- an update to the Risk Register and MDAL that includes all the risks and assumptions that could affect the achievement of the requirements of the Training Service and any consequential effects on the Training System related to the acquisition and implementation of the Proposed Training Service Options.
- a version of the TSIP that includes the risks in the Risk Register that relate to the relevant Training Service (the "**Risked TSIP**") that shows 10%, 50% and 90% confidence dates for all activities and milestones (these shall be calculated via Monte Carlo simulations using three point estimates) on the basis that all risk action plans have been successfully implemented.
- a fully completed Training Service Requirements Document specifying all of the requirements for the

Training Service;

- details all of the requirements for all Authority TSE and TSS Specific Dependencies (the "**Service Level Agreements**" or "**SLAs**") for each of the Proposed Training Service Options;
- a Technology and System Readiness Level Statement (using the guidance at Appendix A to Annex 25) to support the analysis of the risks in the design, development, manufacture, construction, testing, delivery, maintenance, operation and disposal of equipment and information systems for each type of TSE that includes:
  - an analysis of the current Technology Readiness Level ("**TRL**") or System integration Readiness Level ("**SIRL**") of the TSE (as described in Annex 25);
  - an analysis of the development route required to achieve a TRL or SIRL of level 9;
  - the activities required to achieve each of TRL or SIRL levels 3, 6 and 9, and the duration of such activities;
  - any Authority Dependencies required to support the achievement of each of TRL or SIRL levels 3, 6 and 9; and
  - a supporting 'waterfall' diagram that illustrates the development to each of TRL or SIRL levels 3, 6 and 9.
- **Technology Insertion Plan**: The TSP shall identify where new or emergent technology might be utilised in the provision of each of the Proposed Training Services and how this could impact the overall cost model.
- **Concept Of Analysis (COA)**: The TSP shall set out the method of analysis that will be used in the COEIA (included in the MGBC Data Pack) to ascertain the effectiveness of each of the Proposed Training Service Options as compared to total cost which shall include:
  - the method of analysis, and the sources of data and information, that will be used
  - for the investment appraisal of each of the Proposed Training Service Options; the method of analysis, and the sources of data and information, that will be used to measure each of the Proposed Training Service Options in respect of their effectiveness and contribution toward meeting the Principal Requirements.
- **Environmental Sustainability Assessment**: The TSP shall set out how each of the Proposed Training Service Options will comply with EU and UK legislation and UK Government policies with respect to the Environment and Environmental Sustainability.
- **Safety Case**: The TSP shall provide details as to how it intends each of the Proposed Training Service Options will to comply with EU and UK legislation on safety.
- **Airworthiness Case**: The TSP shall provide details as to how it intends each of the Proposed Training Service Options will to comply with any requirement, regulations and legislation relating to Airworthiness and flight safety.
- **Earned Value Management (EVM)**: The TSP shall describe any EVM system to be employed with regard to its sub-contractors.
- **Proposed Sub-Contract Acquisition Strategy:** The TSP shall, for each Proposed Training Service Option provide a recommendation as to the approach to sub-contracting and potential funding strategies.
- **Recommended Support Solution**: The TSP shall provide details as to how the Proposed Training Services would support TSE through-life until disposal or termination.
- the information provided by the Authority pursuant to Part 6 of this Annex 8.

# 3. REFERENCES

This deliverable shall comply with

• Ref 4.2.2 of Table 4.2 of Schedule B

# 4. SPECIFIC CONSTRAINTS

**Authority Constraints:** 

None

## **Controlling Documents:**

The IGBC Data Pack shall be consistent with:

- the Training Systems Design;
- · the Systems Implementation Plan; and
- the relevant Acquisition Initiation Document (as amended by agreement between the Parties).

# 5. DELIVERY

IGBC Data Packs shall be prepared and delivered in accordance with the timescales set out in the System Implementation Plan.

## 6. AUTHORITY ACTIVITIES

## **Authority Obligations:**

The Authority shall provide the following information and data in accordance with the timescales set out in the relevant Acquisition Initiation Document or the TSIP:

- **Security Case**: The Authority will provide an assessment of the issues relating to national security and the classification of material relevant to, and the protective measures required in relation to the project;
- **Cost of Authority TSE**: The Authority will provide details of the cost of Authority TSE based on the SLAs provided by the TSP;
- *Industrial Issues:* The Authority will provide information relating to the Defence Industrial Strategy and any requirements needed for compliance;
- **Geneva Convention Leal review**: The Authority will determine issues relating to compliance with the Geneva Conventions and Protocols;
- **Airworthiness**: The Authority will provide information relating to the requirements, regulations and legislation regarding Airworthiness and flight safety of aircraft on the Military Register;

# **Optional Authority Inputs:**

- The Authority may, at its discretion, provide input from relevant Authority SMEs.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

# ANNEX 9 MAIN GATE BUSINESS CASE DATA PACK ("MGBG DATA PACK")

# 1. DELIVERABLE NAME

# MAIN GATE BUSINESS CASE DATA PACK ("MGBC DATA PACK")

# 2. REQUIREMENT

In relation to each Training Service specified in the TSD and the SIP, the TSP shall prepare and deliver to the Authority an MGBC Data Pack that:

- sets out the supporting data, information and analyses for a recommended technical and commercial solution (the "Recommended Training Service Solution") that meets the relevant parts of the TSD;
   and
- for the Recommended Training Service Solution sets out:
  - o the quantitative details of the Recommended Training Service Solution in respect of:
    - time;
    - through-life cost; and

- performance when compared with the TSRD,
- o the changes required to the TSP Agreement;
- o any other contractual agreements that the Authority would be required to enter into (e.g. direct agreements, deeds, leases, and other commercial agreements);
- o specifications in respect of any Authority Dependencies or Authority TSE;
- o an assessment of the risks in the design, development, construction, acquisition, implementation, installation, delivery, commissioning, certification and provision;
- o any proposed changes to the Training Strategy or Training System Design; and
- o the data, information and analyses that demonstrates that the Recommended Training Solution represents Value for Money.

#### The MGBC Data Pack shall include:

- an update to the TSIP in respect of the Recommended Training Service;
- an update to the Risk Register and MDAL that includes all of risks and assumptions that could affect the achievement of the requirements of the relevant Training Service and consequential effects on the Training System related to the acquisition and implementation of the Recommended Training Service.
- a version of the TSIP that includes the risks in the Risk Register that relate to the relevant Training Service (the "Risked TSIP") that shows 10%, 50% and 90% confidence dates for all activities and milestones (these shall be calculated via Monte Carlo simulations using three point estimates) on the basis that all risk action plans have been successfully implemented.
- a fully completed Training Service Requirements Document (TSRD) specifying all of the requirements for the Training Service;
- details all of the requirements for all Authority TSE and TSS Specific Dependencies (the "Service Level Agreements" or "SLAs") for the Recommended Training Services;
- a Technology and System Readiness Level Statement (using the guidance at Appendix A to Annex 25) to support the analysis of the risks in the design, development, manufacture, construction, testing, delivery, maintenance, operation and disposal of equipment and information systems for each type of TSE, that includes:
  - o an analysis of the current Technology Readiness Level ("TRL") or System Integration Readiness Level ("SIRL") of the TSE;
  - o an analysis of the development route required to achieve a TRL or SIRL of level 9;
  - o the activities required to achieve each of TRL or SIRL levels 3, 6 and 9, and the duration of such activities;
  - o any Authority Dependencies required to support the achievement of each of TRL or SIRL levels 3, 6 and 9; and
  - o a supporting 'waterfall' diagram that illustrates the development to each of TRL or SIRL levels 3, 6 and 9
- **Technology Insertion Plan**: The TSP shall identify where new or emergent technology might be utilised in the provision of the Recommended Training Service Solution and how this could impact the overall cost model.
- Combined Operational Effectiveness and Investment Appraisal (COEIA): The TSP shall provide supporting data, information and analyses showing that the Recommended Training Service Solution has been selected in accordance with Concept Of Analysis contained in the relevant IGBC Data Pack agreed by the Authority.
- **Environmental Sustainability Assessment**: The TSP shall set out how the Recommended Training Service Solution will comply with EU and UK legislation and UK Government policies with respect to the Environment and Environmental Sustainability.
- **Safety Case**: The TSP shall provide details as to how the Recommended Training Service Solution will comply with EU and UK legislation on safety.
- **Airworthiness Case**: The TSP shall provide details as to how it intends the Recommended Training Services will comply with any requirement, regulations and legislation relating to Airworthiness and flight safety.

- **Earned Value Management (EVM)**: The TSP shall describe any EVM system to be employed with regard to its sub-contractors.
- **Sub-Contract Acquisition Strategy**: The TSP shall provide details of the Recommended Training Service Solution method of sub-contracting and funding.
- **Recommended Support Solution**: The TSP shall provide details as to how the Recommended Training Service Solution will support TSE through-life until disposal or termination.
- the information provided by the Authority pursuant to Part 6 of this Annex 9.

#### 3. REFERENCES

This deliverable shall comply with

• Ref 4.2.2 of Table 4.2 of Schedule B

#### 4. SPECIFIC CONSTRAINTS

# **Authority Constraints:**

None

# **Controlling Documents:**

The MGBC Data Pack shall be consistent with:

- · the Training Systems Design;
- the Systems Implementation Plan;
- · the relevant Acquisition Initiation Document;
- the relevant Initial Gate Business Case Data Pack approved by the Authority; and
- any relevant Investment Recommendation Report(s) approved by the Authority

# 5. DELIVERY

MGBC Data Packs shall be prepared and delivered in accordance with the timescales set out in the System Implementation Plan.

## 6. AUTHORITY ACTIVITIES

## **Authority Obligations:**

The Authority will provide the following information and data in accordance with the timescales set out in the relevant Acquisition Initiation Document or the TSIP:

- **Security Case**: The Authority will provide an assessment of the issues relating to national security and the classification of material relevant to, and the protective measures required in relation to the project;
- **Cost of Authority TSE**: The Authority will provide details of the cost of Authority TSE based on the SLAs provided by the TSP;
- *Industrial Issues*: The Authority will provide information relating to the Defence Industrial Strategy and any requirements needed for compliance;
- **Geneva Convention Legal review:** The Authority will determine issues relating to compliance with the Geneva Conventions and Protocols;
- **Airworthiness**: The Authority will provide information relating to the requirements, regulations and legislation regarding Airworthiness and flight safety of aircraft on the Military Register; and
- Approval of the relevant Investment Recommendation Report

# **Optional Authority Inputs:**

- The Authority may at its option provide input from relevant Authority SMEs.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

# ANNEX 10 REVIEW NOTE DATA PACK ("RN DATA PACK")

#### 1. DELIVERABLE TITLE AND ID

# **REVIEW NOTE DATA PACK ("RN DATA PACK")**

# 2. REQUIREMENT

In relation to each acquisition of a Training Service detailed in the TSD and the SIP, the TSP shall prepare and deliver RN Data Packs that set out any change or update to the supporting data, information and analyses contained in or referred to in the relevant MGBC Data Pack or IGBC Data Pack.

The RN Data Pack shall include:

- o an update to the TSIP;
- o an update to the Risk Register and MDAL that includes all the risks and assumptions that could affect the achievement of the requirements of the Training Service and consequential effects on the Training System related to the acquisition and implementation of the Training Service.
- o a version of the TSIP that includes the risks in the Risk Register that relate to the relevant Training Service (the "Risked TSIP") that shows 10%, 50% and 90% confidence dates for all activities and milestones (these shall be calculated via Monte Carlo simulations using three point estimates) on the basis that all risk action plans have been successfully implemented.
- o an update to the relevant Training Service Requirements Document (TSRD);
- o details all the requirements for all Authority TSE and TSS Specific Dependencies (the "Service Level Agreements" or "SLAs") for the Training Services;
- o details of any changes required to the TSP Agreement;
- o details of any other contractual agreements that the Authority would be required to enter into (e.g. direct agreements, deeds, leases, and other commercial agreements);
- o details any proposed changes to the Training Strategy or Training System Design; and
- o data, information and analyses that demonstrates that the Recommended Training Solution represents Value for Money.
- o the information provided by the Authority pursuant to Part 6 of this Annex 10.

## 3. REFERENCES

This deliverable shall comply with

• Ref 4.2.2 of Table 4.2 of Schedule B

# 4. SPECIFIC CONSTRAINTS

# **Authority Constraints:**

None

# **Controlling Documents:**

The RN Data Pack shall be consistent with:

- the Training Systems Design;
- the Systems Implementation Plan;
- the relevant Acquisition Initiation Document (as amended by agreement between the Parties); and
- any relevant Investment Recommendation Report(s)

## 5. DELIVERY

RN Data Packs shall be prepared and delivered within 20 Business Days from any written request from the

Authority or within such other reasonable period agreed by Parties.

# 6. AUTHORITY ACTIVITIES

# **Authority Obligations:**

The Authority will provide the following information and data in accordance with the timescales set out in the relevant Acquisition Initiation Document or the TSIP:

- **Security Case**: The Authority will provide an assessment of the issues relating to national security and the classification of material relevant to, and the protective measures required in relation to the project;
- **Cost of Authority TSE**: The Authority will provide details of the cost of Authority TSE based on the SLAs provided by the TSP;
- *Industrial Issues:* The Authority will provide information relating to the Defence Industrial Strategy and any requirements needed for compliance;
- **Geneva Convention Leal review**: The Authority will determine issues relating to compliance with the Geneva Conventions and Protocols;
- **Airworthiness**: The Authority will provide information relating to the requirements, regulations and legislation regarding Airworthiness and flight safety of aircraft on the Military Register; and

# **Optional Authority Inputs:**

- The Authority may at its option provide input from relevant Authority SMEs.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

## **ANNEX 11 TRAINING SERVICE ACQUISITION DOCUMENTATION**

# 1. DELIVERABLE NAME

# TRAINING SERVICE ACQUISITION DOCUMENTATION

## 2. REQUIREMENT

In relation to each Training Service, the TSP shall prepare and deliver to the Authority Training Service Acquisition Documentation that sets out:

- the proposed change to the Agreement relating to the Training Service; and
- in respect of each TSE Package Contract comprised in the Training Service:
  - o the commercial terms and conditions and technical specification for the relevant TSE Package Contract;
  - o instructions to prospective tenderers for the relevant TSE Package Contract; and
  - o the methodology for the evaluation of bids received;

that will meet the Training System Design and the System Implementation Plan as they relate to the Training Service and the TSRD.

The scope and content of the Training Service Acquisition Documentation shall include the following parts:

# • Draft TSP Agreement Change Proposal

- o Drafts of:
  - the proposed changes to the Agreement including Schedule D and Schedule FS(X) in respect of the Training Service; and
  - any agreements the Authority would be required to enter into with any third party in connection with the Training Service;

as contemplated at Clauses 16.6(A)(1) to 16.6(A)(3) and 16.6(B)(1) to 16.6(B)(4) of the Agreement.

# • TSE Package Contracts

## o Technical Specifications

- The specifications and statements of requirements (the "CSORs") for the relevant TSE Package Contract; and
- The specifications of Authority TSE and Training Service Specific Obligations (which together are referred to as the "SLAs").

#### o Instructions to Bidders

■ The instructions to prospective bidders for TSE Package Contracts, setting out how they should prepare and submit their technical, commercial and financial bids including details of the bidding process and the criteria for the selection or down-selection of bidders.

#### o Bid Evaluation Plan

■ The details as to how the TSP will evaluate bids from prospective TSE Package Contractors.

## o Commercial Documentation

■ The legal and contractual terms and conditions of the TSE Package Contracts and other legal documentation that TSE Package Contractors are intended to enter into (e.g. Direct Agreements, Licences, Leases, Parent Company Guarantees, Collateral Warranties etc.).

## 3. REFERENCES

This deliverable shall comply with

• Ref 4.2.2 of Table 4.2 of Schedule B

## 4. CONSTRAINTS

#### **Authority Constraints:**

Training Service Acquisition Documentation shall comply with the relevant approval of an Initial Gate Business Case, Main Gate Business Case or Review Note as the case may be.

# **Controlling Documents:**

The Training Service Acquisition Documentation shall be consistent with:

- the System Implementation Plan;
- the relevant TSRD;
- the relevant Acquisition Initiation Document (as amended by agreement between the parties); and
- any relevant IGBC Data Pack, MGBC Data Pack or RN Data Pack.

# 5. DELIVERY

The Training Service Acquisition Documentation shall be delivered:

- following the Authority's approval of an Initial Gate Business Case and in accordance with the dates specified in the System Implementation Plan (which shall include all of parts referred to in Part 2 of this Annex 11).
- following the Authority's approval of a Main Gate Business Case and in accordance with the dates specified in the System Implementation Plan (which shall include all of parts referred to in Part 2 of this Annex 11 but excluding the information "Instructions to Bidders" and "Bid Evaluation Plan").
- following the Authority's approval of a Review Note and in accordance with the dates specified in the System Implementation Plan (which shall include all of parts referred to in Part 2 of this Annex 11 but excluding the information "Instructions to Bidders" and "Bid Evaluation Plan").

## 6. AUTHORITY ACTIVITIES

# **Authority Obligations:**

· As expressly stated in the relevant Acquisition Initiation Document as approved by the Authority

pursuant to Clause 15.2.

## **Optional Authority Inputs:**

- The Authority may at its option provide input from relevant Authority SMEs.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

#### ANNEX 12 TSE PACKAGE INVESTMENT RECOMMENDATION REPORT

## 1. DELIVERABLE NAME

# TSE PACKAGE INVESTMENT RECOMMENDATION REPORT

# 2. REQUIREMENT

In relation to each Training Service and for each TSE Package Contract comprised in a Training Service, the TSP shall produce and deliver to the Authority a TSE Package Investment Recommendation Report that sets out a recommendation as to the preferred bidder(s) for the relevant TSE Package Contract based on the bid evaluation plan set out in the relevant Training Service Acquisition Documentation and taking full account of performance, time and cost to deliver value for money.

The report shall also include details of any proposed change to the Agreement in relation to the Training Service and provide an update of the relevant Training System Implementation Plan.

A TSE Package Investment Recommendation Report shall include:

## • Financial Affordability Report

o A report showing whether or not the cost to the Authority of implementing the Training Service with the recommended Preferred Bidder is consistent with the Costed Resource Forecast.

## • Bid Evaluation Report

- o The results of the evaluation of the bids in accordance with the bid evaluation plan included in the relevant Training Service Acquisition Documentation; and
- o Confirmation that:
  - the bids have been evaluated in accordance with the bid evaluation plan included in the relevant Training Service Acquisition Documentation; and
  - the bidding process conformed to the process set out in the instructions to bidders included in the relevant Training Service Acquisition Documentation

# • Updated Technical Specifications and Commercial Documentation

o A copy of the technical specifications (the CSORs and SLAs) and the commercial documentation included in the relevant Training Service Acquisition Documentation, amended to reflect the bid of the recommended preferred bidder for the relevant TSE Package Contract.

# • Updated draft TSP Agreement Change

o A revised draft of the proposed change to the TSP Agreement included in the relevant Training Service Acquisition Documentation to reflect the bid of the recommended Preferred Bidder for the relevant Training Service.

# • Updated Training Service Implementation Plan

- o A copy of the Training Service Implementation Plan, amended to reflect the bid of the recommended Preferred Bidder for the relevant Training Service;
- o And confirmation that the amended Training Service Implementation Plan is consistent with the SIP.

## 3. REFERENCES

This deliverable shall comply with

# 4. SPECIFIC CONSTRAINTS

## **Authority Constraints:**

None

## **Controlling Documents:**

The TSE Package Investment Recommendation Report shall be consistent with:

- the System Implementation Plan;
- · the Training Service Acquisition Documentation;
- the relevant Acquisition Initiation Document (as amended by agreement between the Parties)
- any relevant IGBC Data Pack, MGBC Data Pack or RN Data Pack.

#### 5. DELIVERY

The TSP shall deliver a TSE Package Investment Recommendation Report to the Authority:

- following the evaluation by the TSP of bids from prospective TSE Package Contractors and prior to the date of the relevant Main Gate Business Case or Review Note; and
- in accordance with the dates specified in the System Implementation Plan (SIP)

## 6. AUTHORITY ACTIVITIES

# **Authority Obligations:**

None

# **Optional Authority Inputs:**

- The Authority may at its option provide input from relevant Authority SMEs.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

## **ANNEX 13 TRAINING SERVICE COMPLIANCE TEST SPECIFICATIONS**

# 1. DELIVERABLE NAME

# TRAINING SERVICE COMPLIANCE TEST SPECIFICATIONS

# 2. REQUIREMENT

In respect of each Training Service the TSP shall prepare, maintain and update and deliver to the Authority a specification (a "**Training Service Compliance Test Specification**") that details the procedures and timetable of tests, trials, inspections, audits and reviews that will be carried out to demonstrate to the Authority that the Training Service meets the requirements of the Agreement including the relevant Training Service Schedule, Clause 23 and Clause 28.1 of the Agreement.

Each Training Service Compliance Test Specification shall cover all aspects of the Services provided by the TSP in relation to the relevant Training Service and shall, to the extent applicable to the relevant Training Service, include the following:

- TSE, the testing of which shall include:
  - o the performance and functionality of equipment, facilities, buildings and infrastructure;
  - o the condition and state of repair of equipment, facilities, buildings and infrastructure;
  - o Instructors on their capability to instruct;
  - o Key Personnel qualifications (excluding Authority Instructors and the employees of Authority Responsible Parties);

- o the logistic support of Training Service Enablers, including:
  - management of support personnel;
  - maintenance personnel;
  - spares;
  - documentation (including Support Documentation);
  - tools; and
  - test equipment;
- · health, safety, environmental and security plans;
- · all Relevant Matters;
- the certification of the relevant Courses and all associated Course Documentation;
- · compliance with TUPE Regulations; and
- · compliance with insurance and intellectual property licencing requirements of the Agreement

#### 3. REFERENCES

This deliverable shall comply with:

Ref 4.3.1 of Table 4.3 of Schedule B

#### 4. SPECIFIC CONSTRAINTS

Each Training Service Compliance Test Specification shall be prepared and delivered to the Authority in accordance with the relevant Training Service Schedule..

#### 5. DELIVERY

The TSP shall prepare and deliver to the Authority each Training Service Compliance Test Specification prior to each Ready For Training Use (RFTU) or Course Certification in accordance with the relevant Training Service Schedule.

## 6. AUTHORITY ACTIVITIES

# **Authority Obligations:**

The Authority Obligations in respect of the carrying out of preparation and delivery of Training Service Compliance Test Specifications are as set out in the relevant Training Service Schedule.

# **Optional Authority Inputs:**

- The Authority may at its option provide input from relevant Authority SMEs.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

# **ANNEX 14 RFTU COMPLIANCE DEMONSTRATION**

# 1. DELIVERABLE NAME

# **RFTU COMPLIANCE DEMONSTRATION**

# 2. REQUIREMENT

In relation to each TSE, the TSP shall carry out a RFTU Compliance Demonstration so as to demonstrate to the Authority that the item of TSE meets the requirements of the Agreement and is ready for training use in accordance with the relevant Training Service Schedule.

To the extent applicable to the relevant TSE and the relevant RFTU (in accordance with the relevant Training Service Schedule), the RFTU Compliance Demonstration for each TSE shall include a demonstration (as

required by the Training Service Compliance Test Specification) that:

- the TSE is compliant with the requirements of the relevant Training Service Schedule;
- the Instructional Standards for all instructors have been attained;
- the qualifications of the relevant Key Personnel (excluding Authority Instructors) have been attained;
- · all Relevant Matters have been provided;
- written statements of the contracts of employment have been provided to all affected Authority Transferring Employees by the TSP;
- the TSP has adequate logistic support in place to enable him to provide the Services in accordance with the relevant TSE Package Schedule, including:
  - o management of support personnel;
  - o maintenance personnel;
  - o spares;
  - o documentation;
  - o tools; and
  - o test equipment;
- the health, safety, environmental and security plans comply with the requirements of this Agreement;
- no Dispute has arisen in relation to the relevant Training Service;
- relevant insurance policies in accordance with the requirements of Clause 87 have been taken out (including copies of such insurance policies);
- IPR Licences have been procured in accordance Clause 67 of the Agreement;
- any TSE supplied by the TSP properly integrates with any other TSE (including Authority TSE), any Authority Dependencies and any other equipment needed to properly provide the Services in accordance with this Agreement; and
- all Consents necessary to carry out the installation of the TSE have been obtained.

In respect of each TSE the TSP shall produce and deliver to the Authority an RFTU Compliance Demonstration Report that shall provide a record of the demonstration of compliance and shall include:

- confirmation that the relevant TSE meets the requirements of the relevant TSE Package;
- confirmation that all of the relevant provisions of the Agreement have been complied with;
- confirmation that RFTU Compliance Demonstration has been carried out in accordance with the relevant Training Service Compliance Test Specifications; and;
- all of the supporting data and documentation that form the evidence that all tests, inspections, audits, reviews and other activities specified in the relevant Training Service Compliance Test Specifications have been carried out along with the results of all such tests, inspections, audits, reviews and other activities.

# 3. REFERENCES

This deliverable shall comply with:

Ref 4.3.1 of Table 4.3 of Schedule B

# 4. SPECIFIC CONSTRAINTS

Each RFTU Compliance Demonstration shall be carried out in accordance with the relevant Training Service Schedule and in particular the relevant Training Service Compliance Test Specification.

# 5. DELIVERY

The TSP shall carry out RFTU Compliance Demonstrations and shall prepare and deliver to the Authority RFTU Compliance Demonstration Reports prior to each relevant Ready For Training Use (RFTU) in accordance with the relevant Training Service Schedule.

# 6. AUTHORITY ACTIVITIES

## **Authority Obligations:**

The Authority Obligations in respect of the carrying out of RFTU Compliance Demonstration are as set out in the relevant Training Service Schedule.

## **Optional Authority Inputs:**

- The Authority may at its option provide input from relevant subject-matter experts.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

#### **ANNEX 15 COURSE IMPLEMENTATION COMPLIANCE DEMONSTRATION**

## 1. DELIVERABLE NAME

#### **COURSE IMPLEMENTATION COMPLIANCE DEMONSTRATION**

## 2. REQUIREMENT

In relation to each Course, the TSP shall carry out a Course Implementation Compliance Demonstration so as to demonstrate to the Authority that the Course meets the requirements of the Agreement and is ready for delivery to students in accordance with the relevant Training Service Schedule.

To the extent applicable to the relevant Course, the Course Implementation Compliance Demonstration shall include a demonstration that:

- the Course meets the requirements of the Training System Design in respect of that Course;
- the Course Documentation is complete and ready for use and has been prepared in accordance with DSAT QS; and
- the TSE required for the delivery of the Course in accordance with the Training Service Schedule has been successfully demonstrated as RFTU in accordance with Clause 23.

In respect of each Course the TSP shall produce and deliver to the Authority a Course Implementation Compliance Demonstration Report that shall provide a record of the Course Implementation Compliance Demonstration which shall include:

- confirmation that the Course meets the requirements of the Training System Design in respect of that Course;
- · confirmation that all of the relevant provisions of the Agreement have been complied with;
- confirmation that the Course Implementation Compliance Demonstration has been carried out in accordance with the relevant Training Service Compliance Test Specifications; and
- all of the supporting data and documentation that form the evidence that all tests, inspections, audits, reviews and other activities specified in the relevant Compliance Test Specifications have been carried out along with the results of all such tests, inspections, audits, reviews and other activities.

# 3. REFERENCES

This deliverable shall comply with:

Ref 4.3.1 of Table 4.3 of Schedule B

# 4. SPECIFIC CONSTRAINTS

Each Course Implementation Compliance Demonstration shall be carried out in accordance with the relevant Training Service Schedule and in particular the relevant Training Service Compliance Test Specifications.

# 5. DELIVERY

The TSP shall carry out a Course Implementation Compliance Demonstration and prepare and deliver to the

Authority a Course Implementation Compliance Demonstration Report prior to each Course Certification as set out in the relevant Training Service Schedule.

# 6. AUTHORITY ACTIVITIES

#### **Authority Obligations:**

The Authority Obligations in respect of the carrying out of Course Implementation Compliance Demonstrations are as set out in the relevant Training Service Schedule.

# **Optional Authority Inputs:**

- The Authority may at its option provide input from relevant Authority SMEs.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

## **ANNEX 16 Not Used**

# ANNEX 17 FLYING TRAINING PROGRAMME ("FTP")

#### 1. DELIVERABLE NAME

# FLYING TRAINING PROGRAMME ("FTP")

# 2. REQUIREMENT

On the first Business Day of each calendar year the TSP shall deliver to the Authority an **Annual FTP** and a **10-Year FTP** as described below.

The Annual FTP shall set out:

- · the programme of flying training;
- the schedule of Classes; and
- the capacity of the Training System to train students,

for that Year.

The Annual FTP shall include:

- the Classes that shall be delivered in that year;
- the Course that each Class shall be undertaking and the location;
- the start and finish dates for each Class taking into account all relevant Service Diversions, Authority Regulations and local Station arrangements;
- the number of students that:
  - o may comprise each Class;
  - o need to comprise each Class to achieve the IPS; and
  - o are intended to comprise each Class;
- a comparison with IPS targets and additional training requirements set out in the Statement of User Need.

The 10-Year FTP shall set out:

- the programme of flying training;
- the schedule of Classes; and
- the capacity of the Training System to train students,

for each Year in the 10 Year Period commencing 3 months after the date of delivery of the 10-Year FTP.

The 10-Year FTP shall include:

• the Classes that are planned to be delivered in the first and second years of the 10-Year FTP;

- the Classes that are anticipated, intended or assumed to be delivered in the third to the tenth years of the 10-Year FTP;
- a comparison to the IPS targets and additional training requirements set out in the Statement of User Need;
- the details where the IPS targets and additional training requirements as set out in the Statement of User Need cannot be achieved without carrying out a Change to the Training Services; and
- the details of any such Change to the Training Service.

The 10-Year FTP and the Annual FTP shall meet the Training Capacity Requirements specified in the Statement of User Need.

#### 3. REFERENCES

This deliverable shall comply with:

• Reference 4.4.1 of Table 4.4 of Schedule B.

## 4. SPECIFIC CONSTRAINTS

## **Authority Constraints:**

None

## **Controlling Documents:**

- The 10-Year FTP and the Annual FTP shall be consistent with the:
  - o Training Strategy
  - o Training System Design;
  - o System Implementation Plan and the Training Service Schedules;
  - o Course Documentation;
  - o Statement of User Need (SUN); and
  - o information provided by the Authority pursuant to Part 6 of this Annex 17

# 5. DELIVERY

The TSP shall prepare, update and issue the 10-Year FTP and the Annual FTP on the dates specified in Part 2 of this Annex 17.

# 6. AUTHORITY ACTIVITIES

## **Authority Obligations:**

The Authority shall provide the following information to the TSP for the purposes of the Annual FTP and the 10-Year FTP:

- a financial budget (a "Departmental Plan");
- the Statement of User Need;
- any planning constraints including:
  - o local Station arrangements;
  - o any requirements for additional activities not included in the Statement of User Need;
- the delivery schedule of OCU Courses; and
- · any assumptions regarding Authority TSE;

which shall be used in the preparation of the Annual FTP and the 10-Year FTP, and to the extent that the Authority fails to provide such information to the TSP then the TSP shall include the most recently provided information. For the avoidance of doubt, the TSP shall not be liable for any Performance Points in the event that the Annual FTP or the 10-Year FTP do not include information that the Authority is required to provide but has not provided.

#### **Optional Authority Inputs:**

- The Authority may at its option provide input from relevant subject-matter experts.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

#### ANNEX 18 COSTED RESOURCE FORECAST ("CRF")

#### 1. DELIVERABLE NAME

## **COSTED RESOURCE FORECAST ("CRF")**

# 2. REQUIREMENT

On the first Business Day of each year the TSP shall deliver to the Authority the "**10-Year CRF**" that sets out the projected costs to the Authority of delivering the 10-Year FTP for each of the Years in the 10 Year period commencing the next April following such date.

On the first Business Day of each year the TSP shall deliver to the Authority the "**Annual CRF**" that shall set out the projected costs to the Authority of delivering the Annual FTP for the Year commencing 3 months from such date.

The Costed Resource Forecast (whether the 10-Year CRF or the Annual CRF) shall include:

- the planned hours of usage of each TSE provided by the TSP and the relevant TSAP costs comprising the relevant Annual Availability Amounts, Premia and Additional Usage Amounts in accordance with Schedule F;
- the CCIF Pot apportioned to each of the relevant Classes scheduled in the Flying Training Programme in accordance with Schedule F;
- the planned usage of each Authority TSE and the relevant costs, as notified to the TSP by the Authority, which are necessary in accordance with the relevant Course Specifications to deliver the training to students as set out in the relevant Flying Training Programme; and
- · the agreed TSDF.

## 3. REFERENCES

This deliverable shall comply with:

• Ref 4.4.1 of Table 4.4 of Schedule B

#### 4. CONSTRAINTS

# **Authority Constraints:**

The Costed Resource Forecast shall be prepared in accordance with GAAP or its successors.

## **Controlling Documents:**

- Each of the Years in the 10-Year CRF shall accurately reflect and be consistent with the relevant Years in the then current 10-Year FTP.
- The Annual CRF shall accurately reflect and be consistent with the Annual FTP for that Year.

#### 5. DELIVERY

The TSP shall prepare, update and issue the Costed Resource Forecasts on the dates specified in Part 2 of this Annex 18.

## 6. AUTHORITY ACTIVITIES

#### **Authority Obligations:**

The Authority shall provide the following information to the TSP:

- a financial budget (the "Authority's Departmental Plan");
- · accounting treatment guides and instructions;
- · the Statement of User Need;
- the Authority's requirement for training of students not included in the Statement of User Need;
- · any assumptions regarding Authority TSE; and
- · any changes in the costs of Authority TSE;

which shall be used in the preparation of each CRF, and to the extent that the Authority fails to provide such information to the TSP then the TSP shall include the most recently provided information. For the avoidance of doubt, the TSP shall not be liable for any Performance Points in the event that the CRF does not include information that the Authority is required to provide but has not provided.

## **Optional Authority Inputs:**

- The Authority may at its option provide input from relevant subject-matter experts.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

#### **ANNEX 19 INCURRED COST REPORT**

#### 1. DELIVERABLE NAME

## **INCURRED COST REPORT**

## 2. REQUIREMENT

TSP shall deliver to the Authority an Incurred Cost Report that shall provide monthly financial data to the Authority to enable monitoring and audit of the costs incurred in the delivery of training against the budgets set out in the Authority's Departmental Plan (as defined in Annex 17 of this Schedule B).

The Incurred Cost Report shall include, in respect of the preceding month, the actual figures for the following:

- hours of usage of each TSE provided by the TSP and the relevant TSAP costs comprising the relevant Annual Availability Amounts, any Additional Usage Amounts and any Premia;
- End of Year Payment ("EYP") if any;
- Provisional CCIF Total paid in respect of each Class that has achieved Class Completion; and
- · Final CCIF Total if any
- TSDF

included in the invoice prepared and presented to the Authority for the relevant month in accordance with Clauses 33 to 40 and Schedule F of the Agreement, plus:

• any reasonably foreseeable variance against the extant Costed Resource Forecast for the twelve month period following the issue of the Incurred Cost Report.

At the end of each Year the TSP shall deliver a summary of all of the Incurred Cost Reports for that Year (the "Incurred Cost Report Summary").

#### 3. REFERENCES

This deliverable shall comply with:

• Ref 4.4.2 of Table 4.4 of Schedule B

## 4. CONSTRAINTS

## **Authority Constraints:**

• The Incurred Cost Reports shall be prepared in accordance with any accounting treatment guides and instructions provided by the Authority.

## **Controlling Documents:**

## 5. DELIVERY

Each Incurred Cost Report shall be prepared and delivered to the Authority 8 Business Days following the end of each month, except that the Incurred Cost Report Summary shall be delivered not later than 30 Business Days after the end of each Year.

#### 6. AUTHORITY ACTIVITIES

#### **Authority Obligations:**

None.

#### **Optional Authority Inputs:**

- The Authority may at its option provide input from relevant Authority SMEs.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

## **ANNEX 20 STUDENT END OF CLASS REPORT**

## 1. DELIVERABLE NAME

#### STUDENT END OF CLASS REPORT

## 2. REQUIREMENT

In relation to each student that commences a Class, on the student's completion of that Class or withdrawal from that Class, the TSP shall prepare and deliver to the Authority a Student End Of Class Report in accordance with the relevant Course Documentation that shall include:

- · the student's information and data;
- the Class attended and Class attendance dates;
- whether the student successfully completed the Class, or if withdrawn from the Class, reasons for such withdrawal
- the student's performance throughout the Class, to include;
  - o individual attributes such as capabilities, 'spare mental capacity' and decision making exhibited throughout the Class;
  - o individual personal qualities such as attitude and motivation exhibited throughout the Class;
  - o identification of achievements, strengths, weaknesses and areas for improvement;
- · any relevant streaming decisions or recommendations;
- · instructor and student feedback, including student's awareness of reported items and performance;
- any trophies or commendations awarded;
- a summary of the number of flying hours and other TSE (such as full mission simulators and flying training devices) usage hours carried out by the student and whether such hours were carried out as remedial training; and
- the student's senior Authority Instructor (the "Squadron Commander") comments if the student is withdrawn from the Class or if required by the Authority (such as where the student moves to a different Station for the next Class).

# 3. REFERENCES

This deliverable shall comply with:

Ref 4.5.2 of Table 4.5 of Schedule B

#### 4. SPECIFIC CONSTRAINTS

## **Authority Constraints:**

• The Student End of Class Report shall be prepared in accordance with MOD Form 5201 Series format (as amended or superseded) or as agreed between the Parties

#### **Controlling Documents:**

Student End Of Class Reports shall be prepared in accordance with:

- the Training Strategy; and
- the relevant Course Documentation.

#### 5. DELIVERY

• The Student End of Class Report shall be delivered, in respect of each student, not later than 5 Business Days after completion by the student of the Class, or within 10 Business Days of the student's withdrawal from the Class, as applicable.

## 6. AUTHORITY ACTIVITIES

## **Authority Obligations:**

• The Authority shall provide the following data in respect of each student undertaking each class prior to the commencement of the Class:

# Basic Student Info (\*denotes optional) Last Name First Name Middle Name\* Service Number Crew Position Military Status Rank Clearance Level Gender Ethnicity Platform Unit 'Military Status' can be: - Active duty air force, navy, marines, army, coast guard; - Reserve air force, navy, marines, army, coast guard;

'Ethnicity' is not an optional field, but "Unknown" may be entered.

- Foreign national;

- Civilian.

• Authority Instructor input where required (where Authority Instructors have delivered training or the

Authority has contributed to streaming decisions or recommendations or awarded trophies or commendations) and Squadron Commander's comments; and

· student input.

#### **Optional Authority Inputs:**

- · Additional reporting officer(s).
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

#### **ANNEX 21 STUDENT END OF TRAINING REPORT**

#### 1. DELIVERABLE NAME

#### STUDENT END OF TRAINING REPORT

# 2. REQUIREMENT

In relation to each student that commences training within the Training System, on the student's completion of all training within the Training System or withdrawal from the Training System, the TSP shall prepare and deliver a Student End Of Training Report in accordance with all relevant Course Documentation that shall include:

- · the student's information and data;
- the Classes attended and Class attendance dates;
- whether the student successfully completed all training, or if withdrawn from the Training System, reasons for such withdrawal;
- the results of analysis of all relevant Student End Of Class Reports to identify the student's performance in all Classes in the Training System to include:
  - o individual attributes such as capabilities, 'spare mental capacity' and decision making exhibited throughout all training;
  - o individual personal qualities such as attitude and motivation exhibited throughout all training;
  - o identification of achievements, strengths, weaknesses and areas for improvement;
  - o comparison of performance during different phases of the Training System covering common subject areas such as ground school, simulators, flying exercises, knowledge of weapons, flying maneuvers etc
- · any relevant streaming decisions or recommendations;
- instructor and student feedback, including student's awareness of reported items and performance;
- any trophies or commendations awarded;
- a summary of the number of flying hours and simulator hours carried out by the student and whether such hours were carried out as remedial training; and
- the student's senior Authority Instructor (the "Squadron Commander") comments.

## 3. REFERENCES

This deliverable shall comply with:

Ref 4.5.2 of Table 4.5 of Schedule B

## 4. SPECIFIC CONSTRAINTS

# **Authority Constraints:**

• The Student End Of Training Report shall be prepared in accordance with Form 5201 Series format (as amended or superseded) or as agreed between the Parties

#### **Controlling Documents:**

Student End Of Training Reports shall be prepared in accordance with:

- · the Training Strategy; and
- the relevant Course Documentation.

#### 5. DELIVERY

• The Student End Of Training Report shall be delivered, in respect of each student, not later than 5 Business Days after completion of the last Class of training within the Training System, or within 10 Business Days of the student's withdrawal from the Training System, as applicable.

#### 6. AUTHORITY ACTIVITIES

## **Authority Obligations:**

- Authority input where required (where Authority Instructors have delivered training or the Authority has contributed to streaming decisions or recommendations or awarded trophies or commendations) and Squadron Commander's comments; and
- · student input.

#### **Optional Authority Inputs:**

- Additional reporting officer(s).
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

#### **ANNEX 22 CLASS COMPLETION REPORT**

#### 1. DELIVERABLE NAME

#### **CLASS COMPLETION REPORT**

#### 2. REQUIREMENT

In relation to each Class, the TSP shall prepare and deliver a Class Completion Report that is a record of:

- the successful achievement of the Course Completion Criteria as set out in the Course Documentation in respect of that Class;
- student pass/failure rate;
- the number of Instructional and student hours used in the delivery of the Class each for:
  - o groundschool and classroom-based Training Events;
  - o ground-based Training Events (such as flight simulators, part-task trainers, computer-based training and personal learning material/equipment);
  - o flying Training Events and the number of flying hours used to deliver such Training Events;
- the number of remedial training hours used in the delivery of the Class;
- a comparison of the number of Instructional and student hours used in the delivery of the Class with the Course Documentation;
- the assessment activities carried out and the student's results;
- Instructor and student feedback;
- trend analysis reporting including age, gender and ethnicity supporting both internal and external auditing of UKMFTS; and
- such other information as may reasonably be required to confirm that the Course Documentation has been complied with.

## 3. REFERENCES

This deliverable shall comply with:

#### 4. CONSTRAINTS

## **Authority Constraints:**

None

#### **Controlling Documents:**

- The Class Completion Report shall be prepared in accordance and shall be consistent with:
  - o DSAT QS;
  - o the relevant Course Documentation; and
  - o Training Strategy

#### 5. DELIVERY

• The Class Completion Report shall be delivered to the Authority within 5 Business Days of the completion of the Class.

#### 6. AUTHORITY ACTIVITIES

## **Authority Obligations:**

- Authority Instructor input where required (where Authority Instructors have delivered training or the Authority has contributed to streaming decisions or recommendations or awarded trophies or commendations) and Squadron Commander's comments; and
- · student input.

#### **Optional Authority Inputs:**

None

#### **ANNEX 23 TRAINING SYSTEM PERFORMANCE REPORT**

## 1. DELIVERABLE NAME

## TRAINING SYSTEM PERFORMANCE REPORT

#### 2. REQUIREMENT

The TSP shall prepare and deliver Training System Performance Reports to the Authority that detail the actual performance of the delivery of training as compared to the:

- the Flying Training Programme;
- the Training System Design; and
- the Course Documentation;

that are current at the time that the Training System Performance Report is provided to the Authority.

The Training System Performance Report shall include:

- deviations (whether a trend or a single instance) from expected performance (as such expected performance is set out in the Flying Training Programme, Training System Design and the Course Documentation);
- · reasons for each deviation from expected performance;
- the effect of each deviation on the future performance of the delivery of training in respect of the Flying Training Programme and the Training System Design;
- proposals and timescales for corrective action to correct each deviation;
- any reasonably foreseeable matters that may adversely affect future performance of the delivery of

## training

The Training System Performance Report shall include performance on all aspects of the Training System including:

- · TSE usage hours;
- TSE availability and non-availability hours (including the number of Service Credits awarded to the Authority);
- Student assessments including:
  - o Computer Based Training assessments;
  - o Synthetic assessments;
  - o Flying assessments;
  - o Ground school assessments; and
  - o Pass/Fail rates
- reports prepared and delivered in accordance with the relevant Training Service Schedule;
- · Instructor and Student feedback;
- · Student End Of Class Reports;
- · Student End Of Training Reports;
- Instructor reports (including certification and qualifications of Authority Instructors and TSP Instructors);
- Class Completion Reports;
- Key Personnel (excluding Authority Instructors and employees of Authority Responsible Parties) reports (including certification and qualifications);
- Internal and External Validation activities and reports prepared and delivered in accordance with the Training Strategy;
- CFS inspections, audits and reports prepared and delivered in accordance with the Training Strategy; and
- Operational Conversion Unit reports.

#### 3. REFERENCES

This deliverable shall comply with:

Ref 4.6.1 of Table 4.6 of Schedule B

#### 4. CONSTRAINTS

#### **Authority Constraints:**

None

## **Controlling Documents:**

• None

#### 5. DELIVERY

A Training System Performance Report shall be delivered to the Authority once every three months and not less than 10 Business Days prior to each UKMFTS 1-Star Management Group Meeting.

## 6. AUTHORITY ACTIVITIES

# **Authority Obligations:**

The Authority shall provide the following information to the TSP for the purposes of the Training System Performance Report:

- Authority Instructor input where required (where Authority Instructors have delivered training or the Authority has contributed to streaming decisions or recommendations or awarded trophies or commendations) and Squadron Commander's comments;
- details of the certification and qualifications of Authority Instructors attained prior to their employment in the Training System;
- · student input;
- · CFS inspections, audits and reports; and
- · Operational Conversion Unit reports;

which shall be used in the preparation of the Training System Performance Report, and to the extent that the Authority fails to provide such information to the TSP then the TSP shall include the most recently provided information. For the avoidance of doubt, the TSP shall not be liable for any Performance Points in the event that the Training System Performance Report does not include information that the Authority is required to provide but has not provided.

## **Optional Authority Inputs:**

- The Authority may at its option provide input from relevant subject-matter experts.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

#### **ANNEX 24 TRAINING SYSTEM VALIDATION REPORT**

#### 1. DELIVERABLE NAME

#### TRAINING SYSTEM VALIDATION REPORT

## 2. REQUIREMENT

The TSP shall prepare and deliver Training System Validation Reports that:

- demonstrate to the Authority that the validation of training and the demonstration of compliance has been satisfactorily carried out in the preceding 12 month period in accordance with the agreed Training Service Compliance Test Specifications and Training Strategy, including that:
  - o all TSE Implementation Compliance Demonstrations have been carried out;
  - o all Course Implementation Compliance Demonstrations have been carried out and all Courses are properly Certified; and
  - o all evaluations, inspections and audits have been carried out in accordance with the Training Strategy;
- demonstrate that appropriate Data and supporting information has been used in the preparation of the Training System Validation Report and such Data and supporting information is accurate and valid;
- demonstrate that the validation process is appropriate.

The scope and content of the Training System Validation Report shall include Data and the analysis of Data relating to:

- the results and reports of all TSE Implementation Compliance Demonstrations and Course Implementation Compliance Demonstrations carried out in accordance with the relevant Training Service Schedules and Training Service Compliance Test Specifications;
- Student End of Class Reports and Student End of Training Report and the results of all Student assessment including:
  - o Computer Based Training assessments;
  - o Synthetic assessments;
  - o Flying assessments; and
  - o Ground school assessments;
  - o Pass/Fail rates
- reports prepared and delivered in accordance with the relevant Training Service Schedule;

- · Instructor and student feedback;
- Instructor reports (including certification and qualifications of Authority Instructors and TSP Instructors);
- · Class Completion Reports;
- Key Personnel (excluding Authority Instructor) reports (including certification and qualifications);
- Internal and External Validation activities and reports prepared and delivered in accordance with the Training Strategy;
- CFS inspections, audits and reports prepared and delivered in accordance with the Training Strategy;
- · Operational Conversion Unit reports.
- · BS EN ISO 9001 certification;

#### **Deficiency Report**

- If, in the preparation of the Training System Validation Report, the TSP identifies any failure pursuant to Part 2 of this Annex, the TSP shall include a report (a "Deficiency Report") that identifies the deficiencies and the correction action required and the Training System Validation Report shall be deemed to have been delivered for the purposes of Schedule F.
- For the avoidance of doubt, the failure to deliver a complete Training System Validation Report, including any Deficiency Report:
  - o in the timescales specified in Part 5 of this Annex;
  - o that reports on all of the matters referred to in Part 2 of this Annex or is otherwise incomplete; shall be deemed **not** to have been delivered for the purposes of Schedule F.

#### 3. REFERENCES

This deliverable shall comply with:

Ref 4.6.2 of Table 4.6 of Schedule B

## 4. CONSTRAINTS

## **Authority Constraints:**

• None

#### **Controlling Documents:**

- The Training System Validation Report shall be prepared in accordance with:
  - o the Training Strategy; and
  - o the Training Service Compliance Test Specifications.

## 5. DELIVERY

The Training System Validation Report shall be delivered to the Authority once every year on 30<sup>th</sup> April.

## 6. AUTHORITY ACTIVITIES

## **Authority Obligations:**

The Authority shall provide such information (including any training validation reports) in accordance with the Training Strategy and relevant Course Documentation including

- · CFS inspections, audits and reports;
- Provision of Operational Conversion Unit reports; and
- Details of the certification and qualifications of Authority Instructors attained prior to their employment in UKMFTS

which shall be used in the preparation of the Training System Validation Report, and to the extent that the Authority fails to provide such information to the TSP then the TSP shall include the most recently provided information. For the avoidance of doubt, the TSP shall not be liable for any Performance Points in the event that the Training System Validation Report does not include information that the Authority is required to provide but has not provided.

## **Optional Authority Inputs:**

- The Authority may at its option provide input from relevant subject-matter experts.
- Optional Authority Inputs shall not constitute or be part of or comprise an Authority Obligation.

#### ANNEX 25 SUB-DELIVERABLE DESCRIPTIONS

#### 1. TRAINING SERVICE IMPLEMENTATION PLAN ("TSIP")

- 1.1 In relation to each Training Service identified within the SIP, the TSP shall prepare and maintain a TSIP and update each TSIP in accordance with this Schedule B.
- 1.2 Each TSIP shall cover the period from the Date of Agreement up to the Course Certification of the last new Course of the Training Service and shall consist of:
  - (A) a Training Service Implementation Programme Plan as described in paragraph 1.3;
  - (B) a tabulated list of all TSE and Courses that comprises the Training Service as described in paragraph 1.4;
  - (C) a Project Schedule Assumptions List ("PSAL") as described in paragraph 1.5;
  - (D) a narrative description of the Training Service Implementation Programme Plan as described in paragraph 1.6.
- 1.3 The Training Service Implementation Programme Plan shall include:
  - (A) all activities and milestones including:
    - (1) the preparation and delivery of the Core Deliverables;
    - (2) validation of the training requirement;
    - (3) establishment of the field of bidders;
    - (4) issue of invitations to tender;
    - (5) Authority approvals;
    - (6) TSP Agreement Amendments and the placing of TSE Package Contracts by the TSP;
    - (7) the design, development, construction, installation, testing and certification of all TSE;
    - (8) RFTU milestones;
    - (9) the development of Course Documentation
    - (10) Course Certification for each Course that the Training Service supports;
    - (11) the provision of TSS Specific Dependencies;
  - (B) use a unique identification reference for each activity and milestone in the work breakdown structure and where the same activity or milestone is also in the SIP or is shared by more than one TSIP, the unique identifier reference used shall be consistent.
- 1.4 The tabulated list of TSE shall provide details of the content of each Training Service that includes;
  - (A) the Courses in the Training Service, cross-referenced to the Training System Design;
  - (B) the TSE, a description of each type of TSE, the quantity of each type and the Courses in which they are used;
- 1.5 The Project Schedule Assumption List (PSAL) shall, for each activity within the Training Service Implementation Plan, consist of a table that includes:
  - (A) any assumptions on which the TSIP has been based;
  - (B) any assumptions that underpin or justify the timescales given for each activity;

- (C) the three point estimates for the duration of each activity in Business Days;
- (D) any assumptions regarding TSS Specific Dependencies;
- (E) the unique identification references of the risks identified in the Risk Register referred to in paragraph 2,

and all activities and milestones identified in the TSIP shall be used in the PSAL.

- 1.6 The narrative description (the "**TSIP Management Plan**") of the TSIP shall provide details of any material assumptions or information that explains the sequencing and timing of activities and of each milestone in the Training Service Implementation Programme Plan including:
  - (A) the intended method of acquiring, contracting and supporting each TSE (whether such TSE are equipment, assets, infrastructure or services) and whether sub-contracts will be subject to competition;
  - (B) whether each TSE is Commercial Off The Shelf or requires development;
  - (C) the development of service or equipment specifications;
  - (D) the procurement competition process and down-selection of preferred bidder;
  - (E) material risks and constraints on achievement of RFTUs and Course Certifications;
  - (F) taking account of any required certification processes including Health and Safety, Flight Safety and Airworthiness.

#### 2. RISK REGISTER

- 2.1 In relation to all of the Training Services identified within the SIP and the provision of the Services described in Parts 2 and 3 of the Agreement, the TSP shall prepare, maintain and update a single Risk Register. The Risk Register shall detail the risks that could affect the achievement of the requirements of the Training System (in accordance with the Agreement and in particular the Principal Requirement) in a risks database that, for each risk:
  - (A) uses a unique identification reference;
  - (B) assigns a short title;
  - (C) describes the risk (expressed as "There is a risk that....")
  - (D) describes the possible causes of the risk (expressed as "The causes being...."
  - (E) describes the outcomes if the risk were to occur (expressed as "The consequences of which are...".);
  - (F) identifies the Training Services affected, as well as any other Services affected;
  - (G) specifies the milestones in the SIP or TSIP affected;
  - (H) specifies the probability of the risk occurring;
  - (I) specifies the potential quantitative impact of the risk (using 3 point estimates), without the implementation of the risk mitigation plan, upon;
    - (1) the achievement of the relevant milestone(s);
    - (2) the cost of the Training Services or the Training System;
    - (3) the performance of the Training Services or the Training System;
  - (J) describes the activities or actions that would reduce the:
    - (1) probability of the risk occurring; and
    - (2) the impact of the risk if it were to occur

(the "risk mitigation plan");

- (K) describes the plan that would be implemented following the occurrence of the risk (the "fallback plan");
- (L) specifies the events or circumstances that would trigger the implementation of the risk mitigation plan or fallback plan
- (M) specifies any dependencies upon the Authority which are required to ensure that the risk mitigation plan or fallback plan can be implemented;

- (N) specifies the estimated cost of implementing the risk mitigation plan or fallback plan;
- (O) specifies the potential quantitative impact of the risk (using 3 point estimates), following the implementation of the risk mitigation plan, upon;
  - (1) the achievement of the relevant milestone(s);
  - (2) the cost of the Training Services or the Training System;
  - (3) the performance of the Training Services or the Training System;
- (P) specifies which Party or organisation is responsible for the management of the risk;
- (Q) specifies which Party or organisation is responsible for the risk mitigation plan and the fallback plan; and
- 2.2 The Risk Register shall use a defined and systematic method for the quantitative and qualitative scoring and analysis of each risk in respect of:
  - (A) the probability of the risks occurring; and
  - (B) the impact of the risk if it were to occur for:
    - (1) the achievement of the relevant milestone(s);
    - (2) the cost of the Training Services and Training System;
    - (3) the performance of the Training Services and Training System;

and such quantitative and qualitative scoring methodology shall be defined in the Risk Register.

#### 3. MASTER DATA ASSUMPTIONS LIST (MDAL)

- 3.1 In relation to all of the Training Services identified within the SIP and the provision of the Services described in Parts 2 and 3 of the Agreement, the TSP shall prepare, maintain and update a Master Data Assumptions List (or "MDAL"). The MDAL is a description, in a tabular or database format, of the key and underlying assumptions that underpin the approach and method to the design, development, construction, manufacture, implementation, certification and provision of the Training System (and the Training Services and Services that comprise the Training System).
- 3.2 The MDAL shall include assumptions relating to:
  - (A) commercial and contractual issues;
  - (B) financial and funding issues;
  - (C) governance and management of the Training System;
  - (D) technical and implementation issues including:
    - (1) health and safety;
    - (2) infrastructure;
    - (3) environmental;
    - (4) basing; and
    - (5) information technology;

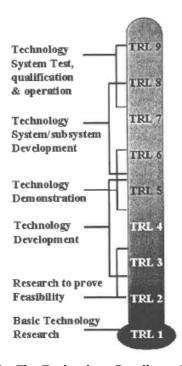
#### 4. TRAINING SERVICE REQUIREMENTS DOCUMENT

- 4.1 In relation to each Training Service specified within the TSD and the SIP, the TSP shall prepare, maintain and update a Training Service Requirements Document (or "TSRD") in a requirements database. Each TSRD shall identify all of the functional, qualitative and quantitative performance characteristics of the relevant Training Service that will enable the relevant Training Service to meet the relevant parts of the TSD. The TSRD shall include requirements that relate to all TSE, including Authority TSE and any Authority Obligations.
- 4.2 The TSRD shall identify each discrete atomic functional, qualitative and quantitative performance characteristic of the Training Service in respect of:
  - (A) training;
  - (B) equipment;
  - (C) personnel;

- (D) information, data and information management, ;
- (E) methods, policies, strategies and approaches;
- (F) organisation;
- (G) infrastructure; and
- (H) logistics;
- 4.3 The TSRD shall also identify all constraints, limitations and assumptions identified in the TSIP, TSD and the MDAL.
- 4.4 Each such requirement shall:
  - (A) have a unique identifier;
  - (B) specify the boundaries of performance from the minimum acceptable level to the maximum desirable level;
  - (C) describe the justification of the requirement by reference to the relevant parts of the TSD and the achievement of the Principal Requirement and compliance with any constraints and limitations identified in the relevant TSIP, the TSD, the SIP, the MDAL and the Overarching Constraints;
  - (D) specify the priority and describe the relative contribution of the requirement in meeting the relevant parts of the TSD and the achievement of the Principal Requirement and compliance with any constraints and limitations identified in the relevant TSIP, the TSD, the SIP, the MDAL and the Overarching Constraints, including whether the requirement is:
    - (1) essential; or
    - (2) mandatory;
  - (E) describe how the requirement will be tested so as to demonstrate compliance and its contribution toward meeting the TSD; and
  - (F) specify whether the Authority or the TSP are intended to be responsible for meeting the requirement; and
  - (G) identify the user requirements (as notified by the Authority) that the requirement contributes towards.

# APPENDIX A MEASUREMENT OF TECHNOLOGY MATURITY - TECHNOLOGY READINESS LEVELS

Technology Readiness Levels (TRL) provides a structured means of measuring, and communicating, the maturity of technologies within MoD acquisition programmes (see Figure 1). The technique complements other means of programme risk assessment. By assessing the risk of achieving each technology readiness level it is possible to determine, and hence manage, the technology risk within individual programmes.



- TRL 9: Actual technology system qualified; e.g. through Reliability and Maintainability demonstration in service.
- TRL 8: Actual technology system completed and qualified through test and demonstration.
- TRL 7: Technology system prototype demonstration in an operational environment.
- TRL 6: Technology system/subsystem model or prototype demonstration in a relevant environment.
- TRL 5: Technology component and/or basic technology subsystem validation in relevant environment.
- TRL 4: Technology component and/or basic technology subsystem validation in laboratory environment.
- TRL 3; Analytical and experimental critical function and/or characteristic proof-of-concept.
- TRL 2: Technology concept and/or application formulated.
- TRL 1: Basic principles observed and reported.

Figure 1 - The Technology Readiness Level framework

Crudely; levels 1 to 3 relate to concept development, and levels above this to the maturation of design application. In the case of concept development, level 1 represents basic scientific research and level 3 is the point where the performance attributes critical to use in a practical application are demonstrated. By definition, application concepts have not been explored in any detail at this stage.

Differentiation between levels 4 and 5 represents the transition from laboratory to 'real world' demonstration. In the case of a control system component, level 4 demonstration might be exemplified by artificial stimulation of response from the component (i.e. the representation of the technology of which the component is part remains virtual). This can be compared with level 5 where the test component is demonstrated to work within a physical realisation of the overall technology (i.e. any stimulation is to the whole technology system). The test component at level 5 might be representative of the technology or design proposed for the intended application, however the overall demonstration would not be representative (i.e. other physical elements within the demonstration would not replicate the fit or form of the intended application).

Above level 5, demonstration is of prototypes or models (representative of form and function) with increasing similarity to production level item (level 8), culminating in completion of bug fixing on the final article at level 9, which will typically be cleared for operational use.

Whilst it is not always appropriate to develop a technology through every level, the risk associated with 'skipping' levels must always be balanced with the cost of taking a more controlled 'step by step' approach.

The TRL framework is designed to be used in relation to technology and can be used for components and/or complete systems. So, for example, combat aircraft TRLs could be determined for the propulsion system, radar, materials, structure etc and can also be assigned to the whole airframe and even the complete aircraft with missile and communications systems. Integration forms a large part of TRLs for technology systems. When deciding the most appropriate level to apply TRLs, bidders should identify the level at which novel and critical technologies form part of a solution.

In some cases, novel technologies may exist at a single level (i.e. existing mature technology products are being put to a new application), or they may exist at multiple levels (i.e. a novel application of existing technology is also dependent on immature technology components). In such cases, TRLs can be applied in a hierarchical fashion. Irrespective of the level of application, careful consideration of total system integration risks ("Technical Risk") will continue to be necessary. For example it is entirely possible within a project to have developed a collection of sub-system technologies to TRL 8 or 9, but at the system level the solution is still immature. Therefore TRLs need to be used consistently across all areas including integration, or be augmented by a similar taxonomy for integration maturity.

SYSTEM READINESS LEVELS (SRLS): A TAXONOMY TO ASSESS AND COMMUNICATE SYSTEM MATURITY

System Readiness Level	Description	Output
1	User Requirements Defined with sufficient underpinning SRD and downstream analysis done to refine the user URD	Mature and Verifiable URD, under configuration control with defined ISD
		<ul> <li>Purpose of system (user needs) captured in verifiable statements</li> </ul>
		<ul> <li>Mission profile available (via CONOPS or CONEMPS)</li> </ul>
		<ul> <li>High level Through Life Management (TLM) considerations outlined</li> </ul>
		Architectural drivers and constraints identified
2	System Requirements Defined with sufficient underpinning architectural design and downstream analysis to refine the SRD. Refine URD as appropriate	Mature and Verifiable SRD, under configuration control, with clear linkage to URD
		<ul> <li>Outline architecture produced and feasibility demonstrated</li> </ul>
		System boundaries identified
		<ul> <li>Bounded functionality traceable to user requirements</li> </ul>
		<ul> <li>Acceptance criteria defined for system level requirements</li> </ul>
		<ul> <li>Consider constraints such as legal or policy requirements</li> </ul>
		<ul> <li>Consider interoperability issues: frame- works, standards and ICDs for interacting systems (consult with Integration Authority)</li> </ul>
		System Requirements Review (SRR)
3	Architectural Design Refined with sufficient underpinning detailed design and downstream analysis to refine the ADDs. Refine SRD as appropriate	Mature Architectural Design Document(s) (ADDs) with defined Integration Test and Acceptance Strategy
		<ul> <li>System architecture, both physical and functional defined</li> </ul>
		<ul> <li>Physical layout of the system documented</li> </ul>
		<ul> <li>System behavioural model documented</li> </ul>
		Integration & Test Strategy defined
		<ul> <li>System and major sub-system interfaces identified and ICDs drafted</li> </ul>
		Preliminary Design Review (PDR)
4	Detailed Design is nominally complete with sufficient underpinning sub-system analysis / modelling to verify the detailed design approach.  Refine the ADDs as appropriate	Mature Sub-System Design Documents with defined Integration & Test Plan
		<ul> <li>Functional and physical architecture refined identifying major sub systems, sub-functions &amp; ICD</li> </ul>
		<ul> <li>System and major sub-system ICDs refined</li> </ul>
		All sub-system ICDs developed
		<ul> <li>Integration &amp; Test Plan defined with specific sub-system test and acceptance criteria</li> </ul>
		<ul> <li>Design documentation under formal configuration control</li> <li>ICDs, specifications etc</li> </ul>

Critical Design Review (CDR)

5 Sub-systems verification in laboratory environment results confirming or refining design as appropriate and refining integration planning

**Sub-systems verification in laboratory** Sub-systems are demonstrated to perform as required when **environment** results confirming or refining subjected to simulated system (lab) conditions

- Functionality of major sub-systems checked using appropriate modelling techniques
- Sub-assembly level testing to verify performance
- Sub assembly test results used to verify modelling predictions
- Acceptance evidence provided in accordance with the ITEA Plan
- 6 **Sub-system verification in** Key sub-system representative integration that sub-system environment results confirming or refining environment design as appropriate and refining integration planning

Key sub-systems integrated with realistic supporting elements so that sub-systems can be tested in a simulated operational (lab) environment

- Sub-systems checked in required environmental conditions:
- Review system level integration planning
- Check modelled system level performance using results of sub-system testing
- Data-flows between key sub-systems checked
- Acceptance evidence provided in accordance with the ITEA Plan
- 7 System prototype demonstration in a representative integration environment results confirming or refining design as appropriate and refining later V&V testing

**System prototype demonstration in a** Representative prototype system demonstrated (all major subrepresentative integration systems integrated and operating) in high fidelity simulated environment results confirming or refining environment such as a vehicle integration test rig

- Major functionality of system tested and architecture demonstrated to be valid
- Systems level tests across required environmental condition range
- External interfaces verified
- Physical check of all sub-system interface mechanism function and fit
- Weight/ size / power budgets checked
- Acceptance evidence provided in accordance with the ITEA Plan
- 8 Pre-production system completed and demonstrated in a representative operational environment with the objective of verifying the remainder of the SRD

**Pre-production system completed and** Final system prototype demonstrated in representative target platform

- Verification of SRD including those aspects relating to supportability
- Production readiness verified and key lessons / modifications incorporated into the design
- External interfaces proved in operational conditions with real equipment
- Acceptance evidence provided in accordance with the ITEA Plan

## **Production Readiness Review (PRR)**

9 System proven through successful representative mission profile

Application of the production system in its final form and under mission conditions

• Validation of the URD under mission conditions such as those encountered in operational test and evaluation &

# reliability trials

# **Physical Configuration Audit (PCA)**

# TRL/SIRL WATERFALL DIAGRAM

A TRL/SIRL Waterfall Diagram is a graphical representation of how the TRL or SIRL of the equipment or systems progress from its base level to a TRL or SIRL of 9. The diagrams shall show:

- the relevant TRL or SIRL on the vertical axis, with TRL or SIRL 9 being closest to the horizontal axis;
- the timescale on the horizontal axis;
- the milestones referred to within this section;

any significant demonstration milestones;