

SCHEDULE 31

Transparency and Financial Models

1 DEFINITIONS

- 1.1 In this Schedule 31 (Transparency and Financial Models), the definitions set out in Schedule 1 (Definitions) shall apply.

PART A: TRANSPARENCY OBJECTIVES

1 FINANCIAL TRANSPARENCY OBJECTIVES

- 1.1 The Contractor commits to the following transparency objectives (“**Transparency Objectives**”):
- (a) demonstrating to the satisfaction of the Authority that the Contractor has planned for and has access to enough resources including its own and through its supply chain (“**Resource Capacity**”) including any planned excess of Resource Capacity above the level used or planned to be used to deliver the Task Volumes (“**Headroom**”) to deliver the Services sustainably at the target performance levels and in accordance with the Key Performance Indicators for the Contract Term;
 - (b) demonstrating sustainable value for money both for Services delivered and future Services to be delivered, facilitated by the provision of a transparent, comprehensive, and detailed understanding of:
 - (i) how the Contractor has sized its Resource Capacity (including labour and all other resources) to meet the demand for Services set out by the Authority in a way that is efficient and in accordance with the Key Performance Indicators;
 - (ii) the costs of the resources used in delivering the Services, including those of the Contractor, its material Sub-Contractors, contract labour and key contractors; and
 - (iii) the total price of the Services, built up from the resource costs overhead, risk and profit margin;
 - (c) enabling the Parties to understand and evaluate the quantitative basis of Change Requests which would result in a potential change to the latest Updated Baseline Financial Model (or the Baseline Financial Model if such model has not been updated in accordance with the provisions of this Schedule 31 (Transparency and Financial Models)) and/or Schedule 4 (Payment, Performance and Incentivisation Mechanism);
 - (d) providing an evidential platform for contract performance management, including:
 - (i) root cause analysis of variances against planned operational and financial performance, clearly linking actual and forecast operational and financial information to overall operational and financial performance;
 - (ii) generating efficiency and improvement initiatives; and

- (iii) demonstrating the realisation of actual and forecast operational and financial benefits (through the use of the Monthly Financial Report and the Annual Financial Report); and
- (e) providing an end-to-end derivation of the actual and forecast Charges to enable the Authority to pay the Contractor.

1.2 Pursuant to the Transparency Objectives, the Contractor:

- (a) shall bring to the Authority leading practice to support, deliver and sustain the Transparency Objectives, including:
 - (i) consistently, openly, willingly, and proactively sharing with the Authority the same operational and financial information that it collects and uses internally to deliver and manage the Contract;
 - (ii) providing information in a transparent way such that the Authority is not reliant on the precision of its enquiries to the Contractor to establish the availability, accuracy and meaning of information that would generally be considered relevant to the effective operation of the Contract;
 - (iii) guiding the Authority on leading practice around the information the Authority needs to collect in relation to the activities being managed under the Contract;
 - (iv) challenging the Authority where activities or deliverables requested by the Authority do not support leading practice or are not practically capable of being delivered by the Contractor to the Authority and proposing appropriate alternative solutions;
- (b) shall ensure that the Authority has clear visibility of materially all the resources and associated costs used directly to deliver the Services, regardless of whether the Services are delivered by:
 - (i) the Contractor or other companies in the same group as the Contractor, including the Contractor's parent, affiliate or sister companies; and/or
 - (ii) consortium or joint venture partners of the Contractor; and/or
 - (iii) Key Sub-Contractors and contractors to the Contractor; and/or
 - (iv) key suppliers to the Contractor;
- (c) shall provide information to the Authority in the form most consistent with the Transparency Objectives, whilst also being:
 - (i) timely;
 - (ii) clearly linked to the operational and financial planning assumptions made by the Contractor in relation to the Task volumes, its capacity to deliver the Services and the associated fixed and variable costs and any risk and contingency elements;
 - (iii) aligned to Key Performance Indicators wherever possible;
 - (iv) transparent, acknowledging that the purpose and derivation of the information should be clear to the recipient and this transparency must be maintained in the event of Change;

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- (v) relevant and presented at an appropriate level of detail such that it highlights to the Authority key insights and issues requiring management attention, with the ability to drill-down on request, rather than leaving the Authority to draw conclusions from voluminous, disparate and unconnected data; and
- (vi) consistent with:
 - A. the latest Updated Baseline Financial Model and Updated Baseline Operational Model (or the Baseline Financial Model and Baseline Operational Model if such models have not been updated in accordance with the provisions of this Schedule 31 (Transparency and Financial Models)); and
 - B. the latest Monthly Financial Model and the relevant supporting inputs/assumptions,

as amended from time to time pursuant to: updating actuals and/or reforecasting and/or an agreed Change, providing a clear reconciliation of assumptions, inputs and outputs between these models;
- (d) shall, to support delivery of the Transparency Objectives, maintain a practical and clearly documented approach to information management that clearly describes:
 - (i) the information to be captured by the Contractor in support of the Transparency Objectives, its source and how it is intended to be used;
 - (ii) the interfaces, tools and system capabilities needed by the Contractor to access this information;
 - (iii) the Contractor's approach to maintaining and managing this information in a way that it is clearly and readily accessible; and
 - (iv) any dependencies that exist between the Authority and the Contractor for information to be managed in accordance with this Schedule 31 (Transparency and Financial Models);
- (e) acknowledges and accepts that the requirements in this Schedule 31 (Transparency and Financial Models) applied to the Contractor will also apply to all other entities connected with the Contractor pursuant to its delivery of the Services, including:
 - (i) other companies in the same group as the Contractor, including the Contractor's parent, affiliate or sister companies;
 - (ii) consortium or joint venture partners of the Contractor; and/or
 - (iii) Key Sub-Contractors and material Sub-Contractors.

PART B: FINANCIAL MODELS AND REPORTS**1 PROVISION OF THE MODELS AND FINANCIAL REPORTS**

1.1 Pursuant to the Transparency Objectives, the Contractor shall provide the reports set out in the table below (the "**Financial Reports**").

	Financial Reports	When to be provided	Purpose	Model requirements specifically relating to each Financial Report
1.	The "Baseline Financial Report", comprising: - the Baseline Financial Model; - the associated User Guide and Data Book for the Baseline Financial Model; - Baseline Operational Model; - the associated User Guide and Data Book for the Baseline Operational Model; - the organisation structure chart, in accordance with paragraph 4 of Part C to this Schedule 31; and - independent external assurance of the Baseline Financial Model and the Baseline Operational Model, in accordance with paragraph 8 of Part C to this Schedule 31.	On or before the Effective Date	To facilitate transparency in Contract management and provide the basis for operational and financial reporting during the Contract Term	The "Baseline Financial Model" will be Contractor's Bid Financial Model updated as at the Effective Date by the Contractor to include: - all of the information specified by and in accordance with of Schedule 4 (Payment, Performance and Incentivisation Mechanism) so as to enable the actual and forecast Charges to be paid to the Contractor as adjusted for the relevant provisions of Schedule 4 (Payment, Performance and Incentivisation Mechanism); - the capability to record actual Task volumes, resources and costs to date and forecast Task volumes, resources and costs to the end of the Contract Term; - up-to-date cell note commentary; - a detailed variance analysis section , to facilitate performance and change management during the Contract Term; and - an output dashboard, including all KPIs that are directly derived from the information held in the model and supported by a management commentary on performance and material single / cumulative variances.

	Financial Reports	When to be provided	Purpose	Model requirements specifically relating to each Financial Report
				The "Baseline Operational Model" will be Contractor's Bid Operational Model updated as at the Effective Date by the Contractor to include: • an eighteen (18) calendar month forecast of Task volumes and associated Contractor operational capacity and resources from the Effective Date; • all of the requirements of the Bid Operational Model as per the instructions and requirements set out in the Invitation to Negotiate, which shall also be reflected fully in the User Guide; and • a detailed variance analysis section , to facilitate performance and change management during the Contract Term.
2.	The "Updated Baseline Financial Report", comprising: • the Updated Baseline Financial Model; • the associated User Guide and Data Book for the Updated Baseline Financial Model; • the Updated Baseline Operational Model; • the associated User Guide and Data Book for the Updated Baseline Operational Model; • the organisation structure chart, in accordance with paragraph 4 of Part C to this Schedule 31; and	Proposed as part of each Change Proposal prepared by the Contractor; agreed as part of the approval of a Change Proposal; and effective from the date on which the Change becomes effective (in accordance with the Change	To support the evaluation of the impact of any Changes to the Contract that may be required in accordance with the Change Control Procedure.	The "Updated Baseline Financial Model" shall be: • the most recent version of the Baseline Financial Model accepted by the Authority; or • the Updated Baseline Financial Model updated for a Change agreed in accordance with the Change Control Procedure, or as reasonably requested by the Authority. The Contractor shall update the narrative (by way of 'comment bubbles') embedded in the in the model, to reflect the agreed changes in assumptions and any resulting changes in pricing. The Contractor will update the User Guide and Data Book to reflect the Updated Baseline Financial Model. The "Updated Baseline Operational Model" shall be: • the most recent version of the Baseline Operational Model accepted by the Authority; or

	Financial Reports	When to be provided	Purpose	Model requirements specifically relating to each Financial Report
	optionally, at the sole discretion of the Authority, independent external assurance of the Updated Baseline Financial Model and the Updated Baseline Operational Model, in accordance with paragraph 8 of Part C to this Schedule 31.	Control Procedure). To be delivered to the Authority in accordance with paragraph 6 of Schedule 19 (Change Control Procedure).		the Updated Baseline Operational Model updated for a Change agreed in accordance with the Change Control Procedure, or as reasonably requested by the Authority.. The Contractor will update the User Guide and Data Book to reflect the Updated Baseline Operational Model.
3.	The "Monthly Financial Report", comprising: - the Monthly Financial Model; - the associated User Guide and Data Book for the Monthly Financial Model; - a statement from the Contractor confirming compliance in accordance with paragraph 7 of Part C to this Schedule 31; - the Monthly Operational Model; - the associated User Guide and Data Book for the Monthly Financial Model; - the Contractor's performance commentary setting out details of key cost drivers affecting financial performance, including forecast vs actual variance analysis of: (i) Task volumes; (ii) operational capacity vs	As part of each Monthly Performance and Activity Report prepared in accordance with Schedule 6 (Governance, Management Information, Reports, Records and Audit).	To enable the derivation of actual and forecast charges, payments (in accordance with Schedule 4 (Payment, Performance and Incentivisation Mechanism)) and invoices, and to support performance management of the Contract during the Contract Term.	The "Monthly Financial Model" shall be the financial model most recently accepted, by the Authority, of either: - the Baseline Financial Model; or - the Updated Baseline Financial Model; or - the Monthly Financial Model, updated for: (i) actual Task volumes, resources, costs and Charges to date; and (ii) the most recently agreed Task volumes, resources, costs and Charges to the end of the Contract Term. The "Monthly Operational Model" shall be the operational model most recently accepted, by the Authority, of either: - the Baseline Operational Model; - the Updated Baseline Operational Model; or - the Monthly Operational Model, updated for: (i) actual Task volumes and operational resources; and (ii) the most recently agreed Task volumes, operational inputs, assumptions and resources to the end of the Contract Term.

	Financial Reports	When to be provided	Purpose	Model requirements specifically relating to each Financial Report
	demand; (iii) operational resources and associated costs; and (iv) payments made in accordance with Schedule 4 (Payment, Performance and Incentivisation Mechanism); - the most recent organisation structure chart, in accordance with paragraph 4 of Part C to this Schedule 31; and - any other supporting documentation and analysis prepared by the Contractor and/or reasonably requested by the Authority.			
4.	The "Annual Financial Report", comprising: - the Monthly Financial Model; - the associated User Guide and Data Book for the Monthly Financial Model; - a statement from the Contractor confirming compliance in accordance with paragraph 7 of Part C to this Schedule 31; - the Contractor's performance commentary setting out details of key cost drivers affecting financial performance, including forecast vs actual variance analysis of: (i) Task	Within ten (10) Business Days of the end of the Contract Year to which the report relates.	To evaluate the Contractor's performance against the Contract requirements over the most recently completed Contract Year.	The Monthly Financial Model shall be the version of such model for the month ending on 31 March of the Contract Year to which the report relates, showing specifically the provisions of Schedule 4 (Payment, Performance and Incentivisation Mechanism) that are applied annually.

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	Financial Reports	When to be provided	Purpose	Model requirements specifically relating to each Financial Report
	volumes; and (ii) payments made in accordance with Schedule 4 (Payment, Performance and Incentivisation Mechanism); and any other supporting documentation and analysis prepared by the Contractor and/or reasonably requested by the Authority.			
5.	The "Final Reconciliation Financial Report", comprising: - the Monthly Financial Model; - the associated User Guide and Data Book for the Monthly Financial Model; - a statement from the Contractor confirming compliance in accordance with paragraph 7 of Part C to this Schedule 31; and - any other supporting documentation and analysis prepared by the Contractor and/or reasonably requested by the Authority.	Within sixty (60) Business Days after the end of the Contract Term	To enable the derivation of any final Charges, payments and invoices that may still be outstanding as at the end of the Contract Term.	The Monthly Financial Model shall be the version of such model updated to provide actuals for the entire Contract Term and adjusted for any other relevant provisions under the Contract as agreed with the Authority.

2 PREPARATION OF THE MODELS AND FINANCIAL REPORTS

- 2.1 Any changes or modifications to the Financial Reports shall be agreed between the Contractor and the Authority and only implemented by the Contractor following written notice by the Authority to the Contractor.
- 2.2 The Contractor shall be responsible for maintaining the Financial Reports.
- 2.3 A copy of each Financial Report shall be uploaded to the Shared Data Environment by the Contractor. If there is a Dispute regarding a Financial Report, the copy of the Financial Report considered by the Authority to be the relevant Financial Report shall be authoritative.
- 2.4 Each Financial Report shall:
- (a) be completed by the Contractor using reasonable skill and care;
 - (b) incorporate and use the same defined terms as are used in this Contract;
 - (c) quote all costs as exclusive of any VAT; and
 - (d) quote all costs and Charges based on current prices.
- 2.5 Each Financial Report shall be certified by the Contractor's Chief Financial Officer or Director of Finance (or equivalent as agreed in writing by the Authority in advance of issue of the relevant Financial Report), acting with express authority, as:
- (a) being accurate and not misleading;
 - (b) having been prepared on an accruals basis in conformity with generally accepted accounting principles within the United Kingdom;
 - (c) being a true and fair reflection of the information included within the Contractor's management information systems, management, and statutory accounts; and
- 2.6 During the Contract Term, and for a period of eighteen (18) months following the end of the Contract Term, the Contractor shall make available a suitably qualified and experienced financial representative at reasonable times and on reasonable notice to answer any queries that the Authority may have on any of the Financial Reports and/or open book data.
- 2.7 If the Contractor becomes aware of the occurrence, or the likelihood of the future occurrence, of an event which will or may have a material effect on the following:
- (a) the Costs incurred (or those forecast to be incurred) by the Contractor; and/or
 - (b) the forecast Charges for the remainder of the Contract Term,
- the Contractor shall, as soon as practicable, notify the Authority in writing of the event in question detailing the actual or anticipated effect. Notifications provided in accordance with this paragraph shall not have the effect of amending any provisions of this Contract.
- 2.8 If at a later date evidence becomes available that any Financial Report contains errors or omissions that have not been previously raised and resolved, the Authority reserves the right to seek and the Contractor shall promptly provide further information setting out the cause and financial impacts of such errors or omissions as is necessary.
- 2.9 If the Parties are unable to reach agreement on any Financial Report within sixty (60) Business Days of its receipt by the Authority, the matter shall be referred for determination in accordance with Schedule 30 (Dispute Resolution Procedure).

3 DISCUSSION OF THE FINAL RECONCILIATION FINANCIAL REPORT

- 3.1 Following the delivery by the Contractor of the Final Reconciliation Financial Report, the Parties shall meet to discuss its contents within twenty (20) Business Days of receipt (or such other period as the Parties shall agree) and:
- (a) the Authority shall advise the Contractor of any particular aspects or issues it would wish explained at the meeting;
 - (b) the Contractor shall ensure that a suitably qualified and experienced financial representative shall attend the meeting on its behalf within ten (10) Business Days of receipt (or such other period as the Parties shall agree);
 - (c) the Contractor shall make appropriate Contractor Personnel and advisers available to discuss any variations between the Final Reconciliation Financial Report and the most recent of the latest Updated Baseline Financial Report, the immediately preceding Monthly Financial Report and the Annual Financial Report and to explain such variations (with reference to supporting evidence) to the satisfaction of the Authority.
- 3.2 Within twenty (20) Business Days of the meeting referred to in paragraph 3.1 (or such other period as the Parties shall agree) the Authority shall either:
- (a) notify the Contractor that the Final Reconciliation Financial Report contains errors or omissions or that further explanations or supporting information is required, in which event the Contractor shall make any necessary modifications to the Final Reconciliation Financial Report and/or supply the Authority with such supporting evidence as is required to address the Authority's concerns within twenty (20) Business Days of such notification (or such other period as the Parties shall agree) and the Authority shall following receipt of such amended Final Reconciliation Report and/or supporting information, approve or reject such Final Reconciliation Report; or
 - (b) approve the Final Reconciliation Financial Report.
- 3.3 Following the approval by the Authority of the Final Reconciliation Financial Report in accordance with paragraph 3.2(b), that version shall become, with effect from the date of such approval, the approved version of the Final Reconciliation Financial Report for the purposes of this Contract, a version of which shall be held by both the Authority and the Contractor. If there is a Dispute regarding the Final Reconciliation Report, the Authority's copy of the Final Reconciliation Financial Report and the corresponding Model shall be authoritative.

4 KEY SUB-CONTRACTORS

- 4.1 The Contractor shall, if requested by the Authority, provide (or procure the provision of) a report or reports including the level of information set out in the Financial Reports in relation to the costs and expenses to be incurred by any of its Key Sub-Contractors. Without prejudice to the provisions relating to audit in Schedule 6 (Governance, Management Information, Reports, Records and Audit), the Contractor shall:
- (a) be responsible for auditing the financial models/reports of its Key Sub-Contractors and for any associated costs and expenses incurred or forecast to be incurred; and
 - (b) on written request by the Authority, provide the Authority or procure that the Authority is provided with:
 - (i) full copies of audit reports for the Key Sub-Contractors (and the Authority shall be entitled to rely on such audit reports); and
 - (ii) further explanation of, and supporting information in relation to, any audit reports provided.

PART C: DELIVERY OF MODELS AND MODEL DOCUMENTATION

1 DELIVERY OF MODELS

- 1.1 The Contractor shall deliver the Models and associated documentation set out in Part B (Financial Models and Reports) in accordance with the following provisions:
- (a) the Models shall include:
 - (i) all of the functionality incorporated in the Bid Financial Model and all of the functionality specified in the Operational Model instructions;
 - (ii) all additional functionality specified for each Model as set out in the Financial Reports table in Part B of this Schedule 31 (Transparency and Financial Models);
 - (b) the Models shall be available to the Authority throughout the Contract Term;
 - (c) the Models shall be fully calculating and show all working logical links between the Contractor's operational assumptions for delivering the Services through to the Charges;
- 1.2 None of the Financial Models shall vary the payments to the Contractor except as determined by Schedule 4 (Payment, Performance and Incentivisation Mechanism) and/or Schedule 19 (Change Control Procedure).
- 1.3 The Financial Models shall align to the Contractor's Work Breakdown Structure ("**WBS**") and financial reporting structure and show the operational and financial impacts of Change Requests on a likewise basis. The WBS and financial reporting structure shall:
- (a) be materially the same structure used by the Contractor to manage its delivery of the Services to the Authority;
 - (b) be supported by an up-to-date dictionary setting out the definition of the WBS and financial reporting structures;
 - (c) facilitate operational and financial drill-down to any level of the Contractor WBS and financial reporting structure, on request by the Authority.
- 1.4 The Models shall disclose to the same level of transparency as is required of the Contractor the resources and associated costs of all other entities connected with the Contractor pursuant to its delivery of the Services, including:
- (a) other companies in the same group as the Contractor, including the Contractor's parent, affiliate or sister companies; and/or
 - (b) consortium or joint venture partners of the Contractor; and/or
 - (c) Key Sub-Contractors and contractors to the Contractor; and/or
 - (d) key suppliers to the Contractor.

2 USER GUIDE

- 2.1 The Contractor shall maintain an up-to-date user guide ("**User Guide**") for the each Model, which shall:

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- (a) be written at a level suitable for a reasonably skilled and experienced user (but who may not be a professional operational modeller) of Microsoft Excel;
- (b) identify the version of the Model to which the User Guide refers;
- (c) explain for each Model:
 - (i) the scope;
 - (ii) the logical schema, including:
 - A. the worksheet structure;
 - B. an explanation of the intended purpose of each part of the schema (worksheets and sections within worksheets);
 - C. identification of any parts of the scheme that have been included for supplementary analysis and are not a part of the derivation of Authority mandated outputs; and
 - D. any parts of the schema that require Visual Basic for Applications (VBA) (macros) and/or manual transfer of data between sections for the Operational Model to calculate;
 - (iii) the approach to the visual separation and identification of inputs, assumptions, calculations and outputs;
 - (iv) in relation to any operational modelling, the estimating methodology that underpins the logic used in the Model to translate Task quantities into Resource Capacity and Headroom, covering all the elements of but not limited to paragraphs 1.1 (a) and (b) of Part A to this Schedule 31;
 - (v) the logic, process flows and calculations used in the Model;
 - (vi) the outputs of the Model;
 - (vii) the purpose and operation of any checks that have been built into the Model, including guidance over required user action needed to remediate checks that have been triggered;
 - (viii) with explicit cross referencing, the inputs and assumptions and outputs of the any Model that are intended to reconcile to inputs and assumptions in any other Model;
 - (ix) how the Contractor has tested the Model to ensure that it is fit-for-purpose and the detailed test procedures that have been carried out;
 - (x) all processes for how the Model is intended to be used, covering both base case and scenario settings and clearly explaining where the Model requires the user to intervene to calculate fully, including the use of VBA (macros) and where Inputs and outputs need to be copied and pasted between common sections in different workbooks as applicable; and
 - (xi) any other relevant operating instructions as needed for the Authority to run the Model on its own systems.
- (d) clearly identify in the latest version of the User Guide any changes made versus the most recent previous version of the User Guide issued to the Authority.

3 DATA BOOK

- 3.1 The Contractor shall maintain an up-to-date book ("**Data Book**") for each Model that sets out in a tabular format for each of the inputs and assumptions the following information:
- (a) Unique serial number;
 - (b) Input / Assumption Name;
 - (c) Workbook, Worksheet and Cell range reference;
 - (d) description;
 - (e) data source;
 - (f) an explanation and amount of any risk or contingency included in the Input or Assumption;
 - (g) the basis of validation that the Input or Assumption is fit for purpose and sustainably achievable;
 - (h) where applicable, a cross reference to where used / mirrored in the written technical solution; and
 - (i) the owner of the Input or Assumption.
- 3.2 Contractors may refer in the Data Book to a group of data Inputs where such Inputs are collectively commonly sourced and share the same underpinning logic.
- 3.3 Contractors are not required to repeat the values of the inputs and assumptions in the Data Book, providing the referencing in the Data Book uniquely identifies where the inputs and assumptions are located in the Operational Model.
- 3.4 The Contractor should clearly identify in the latest version of the Data Book any changes made versus the most recent previous version of the Data Book issued to the Authority.
- 3.5 Where agreed, the Models shall show the delivery of benefits against the original plan, as updated for approved change requests and evidenced in the Updated Baseline Financial Models, in a manner consistent with the Contractor WBS.

4 ORGANISATION STRUCTURE CHART

- 4.1 The Contractor will provide an organisation structure chart updated on at least a calendar quarterly basis, directly aligned to its WBS and Operational Model and Financial Model, showing the roles and headcount (FTE) that materially directly deliver the Services, covering the Contractor, its parent, affiliate and sister companies, any joint venture or consortium partners of the Contractor and the Contractor's Sub-Contractors and contractors.

5 CONTRACTOR PERSONNEL – MODELLING CAPABILITY

- 5.1 The Contractor will maintain suitably qualified and experienced modelling capability for the Contract Term at a capacity consistent with delivering the requirements of this Schedule 31 (Transparency and Financial Models), the associated requirements of Schedule 6 (Governance, Management Information, Reports, Records and Audit), and in relation to Financial Reports and any other ad-hoc requests the Authority may reasonably make of the Contractor in connection with the Models.

6 SECURITY

- 6.1 The Models shall be in a form that meets the Security Requirements and the Authority's cyber security requirements (as set out Clause 37 (Cyber)) and shall be able to be run on the Authority's systems without needing any additional software licences to be purchased by the Authority.

7 STATEMENT CONFIRMING COMPLIANCE

- 7.1 Each Financial Report shall be certified by the Contractor's Chief Financial Officer or Director of Finance (or equivalent as agreed in writing by the Authority in advance of issue of the relevant Financial Report), acting with express authority as:

- (a) being accurate and not misleading;
- (b) having been prepared on an accruals basis in conformity with generally accepted accounting principles within the United Kingdom; and
- (c) being a true and fair reflection of the information included within the Contractor's management information systems, management, and statutory accounts.

8 INDEPENDENT ASSURANCE

- 8.1 The Authority reserves the right to require the Contractor to provide external independent assurance to the Authority (or similar) of any Model by a suitably qualified third party providing a duty of care to the Authority , confirming that:

- (a) the Model has been built in accordance with the scope, methodology and logic set out in the User Guide and is materially fit for its intended purpose;
- (b) the Model has been populated in accordance with the inputs and assumptions set out in the Data Book;
- (c) all inputs and assumptions that are common to different Models provided to the Authority by the Contractor are the same; and
- (d) the Model is materially consistent with the Model Build Standards set out in paragraph 10 below.

- 8.2 Where a review or other external assurance identifies logical error or unjustified inputs and assumptions ("**Errors**"), the Contractor shall resolve such Errors to the satisfaction of the Authority with no additional charges to the Authority.

9 NOT USED

10 MODEL BUILD STANDARDS

- 10.1 The standards set out in this paragraph 10 apply to all Models, noting that all such information must be submitted to the Authority using Microsoft Excel spreadsheets.

- 10.2 Models shall be laid out in a clear and logical manner that is readily understandable by a reasonably skilled and experienced user of Microsoft Excel (but who may not be full time professional modeller);

- 10.3 the overall flow of data in the Models shall flow from inputs to calculations to outputs;

- 10.4 where possible, separate worksheets shall be used for inputs, calculations and outputs;

- 10.5 input sections shall be clearly defined and formatted to highlight that they are inputs;
- 10.6 Formulae shall be written in a transparent manner and shall be documented in the Model and/or the User Guide. Other than the exceptions below, formulae shall not contain any hard-coded Input data; instead, inputs should be entered initially on an input sheet and linked into the formulae either directly or through a call-up. Accepted exceptions to this comprise:
- (a) arguments in formulae may require a -1, 0 or 1 in order to specify the argument type (e.g. as required in the MATCH function);
 - (b) timing flag calculations may include a 0 or 1;
 - (c) logical checks may include 0 or 1;
 - (d) sequential period or item counters used for dynamic labelling may be in the format of "previous" + 1;
 - (e) Max and Min calculations may require the use of 0 in order to limit a figure to positive or negative numbers only; and
 - (f) where using indices or percentages, formulae may require the use of "+1" in order to calculate the increase from a specific value or "1-" where an inverse of a percentage is required.
- 10.7 Formulae should generally follow the rule that, where the same calculation is being repeated across a row, down a column, or across and down a table, that row, column, or table should contain a single formula copied across the cells in that row, column, or table. Where this rule cannot be followed, such that what may appear to the user to be the same formulae are variant formulae, such variance should be highlighted to the user. A permitted exception to this shall be where annual summaries are provided adjacent to the monthly calculations (although annual summaries may not be interspaced within a monthly timeline).
- 10.8 Output sheets shall not contain any calculations apart from sums and check totals.
- 10.9 Wherever possible, the Model should include automatic checks that clearly identify to the user, for example:
- (a) where inputs have not been input as intended, including giving rise to outputs that are not as expected;
 - (b) inputs required for the Model to calculate correctly and in accordance with the Model specification are incomplete or missing; and
 - (c) calculations performed in more than one way that should yield the same output do not reconcile, for example, the sum of the data in each period of the Model does not equal the sum of the annual summaries of the same data.
- 10.10 Models shall have a consistent timeline across worksheets starting in the same column, with line items going down the worksheet.
- 10.11 Models shall not contain any hidden cells or sheets.
- 10.12 Models shall not have any password protect sections that cannot be readily accessed by the Authority.
- 10.13 The calculations in any of the Models shall be designed to allow the use of the Microsoft Excel formula editing tools, and the use of functions that do not permit this (for example, Array, OFFSET, INDIRECT, HLOOKUP, VLOOKUP and LOOKUP functions) shall not be used.

- 10.14 The number of worksheets contained in the Models shall generally be minimised, with worksheets logically arranged and labelled, including the use of blank spacing tabs where appropriate to designate key sections of the Model.
- 10.15 Sections within worksheets shall be labelled with clear headings.
- 10.16 Use of range names shall be kept to a minimum, although any cells referred to in Visual Basic for Applications (VBA) must be defined by a range name.
- 10.17 Models shall not contain any external links. If input data is sourced from supporting Contractor models or systems, a separate input sheet shall be created, and the output from the supporting models shall be copied and pasted as hard-coded values into this separate input sheet. Such input ranges shall be clearly labelled with the filename of the underlying model, range references, version number and date of import.
- 10.18 Models shall not contain any circularities and iteration shall be switched off in the calculation setting.
- 10.19 In automatic calculation mode Models shall calculate fully from inputs, through calculations to outputs.
- 10.20 Inputs and subsequent logic that do not directly feed through to Model outputs shall generally be minimised and, where present, shall be clearly labelled as supplementary calculations.
- 10.21 Each row/column with input data, calculations or outputs must be labelled with the appropriate units and, where applicable, currency.
- 10.22 Models must contain a version number and date.
- 10.23 The Model should be accompanied by an up to date Data Book in a tabular format for each Input and Assumption in accordance with paragraph 3 of this Part C of Schedule 31 (Transparency and Financial Models).
- 10.24 The Model should be accompanied by an up to date User Guide in accordance with paragraph 2 of this Part C of Schedule 31 (Transparency and Financial Models).
- 10.25 The use of Visual Basic for Applications ("VBA") is permitted, providing macros are transparently written, supported within the VBA with explanatory comment and fully explained in the User Guide. The following standards also apply:
- (a) VBA may be used where the Contractor wishes to minimise replicating identical calculations and speed up the time taken for the Model to calculate. In this case, the Contractor shall clearly show the inputs to and the spreadsheet formulae used in the calculations. Cells that are populated by such VBA routines shall be transparently identifiable, e.g., via colour coding, as being distinct from the input or calculation cells. Checks shall be in place to ensure reconciliation between inputs and VBA-driven outputs;
 - (b) VBA may be used for the purposes of model control, including navigation and print macros;
 - (c) "Option Explicit" shall be switched on;
 - (d) VBA code shall contain adequate non-technical narrative and be fully documented in the Model user guide;
 - (e) VBA shall not be used when the calculation itself is being performed within VBA in virtual memory such that only the inputs and outputs are visible to the Model user;

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- (f) VBA shall not be used to create custom functions; and
- (g) VBA shall not be used where the output of the VBA macro could as easily be obtained by using Excel formulae.

10.26 Where it is intended that a part or all of the Model will be printed, print areas should be set up to print single-sided with header and / or footer labels that include:

- (a) The title of the print-out;
- (b) The date and time of the print-out;
- (c) The page number of the print-out and the total number of pages in the print-out;
- (d) The protective marking applicable to the print-out; and
- (e) The name of the worksheet and the name of the workbook from which the print-out has been prepared.