

**Technical Advisor Services to the  
Antarctic Infrastructure Modernisation Programme (AIMP)  
Future Phases**

**Scope**

**Volume 4**

**PROJECT WORKS  
(Work Stage 3a to 8)**

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	<b>Name</b>	<b>Signature</b>	<b>Date</b>	
<b>Prepared:</b>	David Seaton BAS Senior Infrastructure Programme Manager			
<b>Checked:</b>	Nicola Turner Head of Procurement - Construction & FM UK Shared Business Services Limited			
<b>Verified:</b>	John Eacott NERC Head of Estates			

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## 1. Summary of the Deliverables arising during a Project

### 1.1. General Deliverables

Along with the specific requirements set out in this Volume, the *Technical Advisor (TA)* shall be required to demonstrate the key attributes set out in Volume 1 at all points throughout projects.

Information pertaining to the general deliverables required for all projects (i.e. all works undertaken) is presented at Volume 2. Information pertaining to the specific deliverables for WS 0 to 2 is presented at Volume 3.

The Scope assumes that work stages 4 - 6 are being delivered and led by the *Construction Partner*. If an alternative delivery model is to be used then this will be detailed in the task order.

### 1.2. Work Stage 3a – Developed Design<sup>1</sup>

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
Developed Design Initiation Meeting.	2.1	Minutes of Meeting	Within 5 days of meeting being held.
<i>Client</i> to appoint <i>TA</i> as Principal Designer for work stage 3.	Vol. 2	n/a	As required for compliance with CDM Regulations 2015.
Appoint named individual as CDM Advisor for work stages 3-8.	Vol. 2	CDM Advisor.	Within 5 working days of starting WS3a.
Commence the compilation of the Health and Safety File.	Vol. 2	Draft Health and Safety File structure.	Within 4 weeks of Developed Design Initiation Meeting.
Establish format and content list for Operation & Maintenance Manuals (O&M Manuals).	2.2	Draft O&M Manual Structure	Within 4 weeks of Developed Design Initiation Meeting.
Prepare drawings and other documents to support the EIA process, led by the <i>Client</i>	2.3	All relevant drawings and others documents for EIA	As agreed with <i>Client</i> .
Produce the Developed Design Report	2.4	Developed Design Report.	As agreed with <i>Client</i> .
Produce a pre-tender estimate (PTE) of the cost of the Works.		Pre-tender estimate.	As part of Developed Design Report.

<sup>1</sup> Can be run concurrently with WS3b

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
Undertake Value Engineering assessments.	2.5	Value Engineering report	As part of Developed Design Report.
Peer Review of Developed Design.	Vol. 2	Peer Review report	Within 2 weeks of completion of Developed Design.
Investment Appraisal to support Outline Business Case (OBC).	Vol. 3	Investment Appraisal	Final version to be submitted a minimum of 10 working days prior to OBC submission date.
Documentation to Support OBC	Vol. 2	TBC	As agreed with <i>Client</i> .
<b>DEFINITION OF COMPLETION</b>		<b>Final Developed Design Report.</b>	

### 1.3. Work Stage 3b –Tender preparation<sup>2</sup>

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
Prepare Works Information for Construction Partner Contract (using NEC4 contract guidance).	2.6	Works Information	2 weeks prior to tender issue date
Prepare Site Information for Construction Partner Contract (using NEC4 contract guidance).	2.7	Site Information	2 weeks prior to tender issue date
Prepare Pre-Construction Information in accordance with CDM Regulations 2015.	Vol. 2	Pre-Construction Information.	2 weeks prior to tender issue date
Prepare tender issue ROMR	Vol. 2	ROMR	2 weeks prior to tender issue date
Assist <i>Client</i> in preparing the draft task order request for quotation	NEC4	Draft task order RFQ	Tender issue date
Review complete RFQ (tender) and Contract documentation		n/a (to be led by <i>Client</i> ).	As agreed with <i>Client</i> .
<b>DEFINITION OF COMPLETION</b>		<b>Completion of RFQ documentation</b>	

<sup>2</sup> Can be run concurrently with WS3a.

#### 1.4. Work Stage 3c – Tender Invitation and Design Handover

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
Issue of Request for Quotations (RFQ).	n/a	n/a	These shall be issued by the <i>Client</i>
Initial Construction Partners Briefing Meeting (within 1 week of RFQ issue)	2.8	Minutes of meeting	Within 5 working days of meeting.
Issue further design information identified at Construction Partners Briefing Meeting to Construction Partner.	n/a	As agreed with Construction Partner and <i>Client</i>	Within 5 working days of meeting.
Facilitate additional workshops as required with BAS and the Construction Partner to present and discuss the tender documents	2.8	Minutes of meeting	Within 2 weeks of RFQ issue
Provide responses to RFQ Clarifications during the Design Handover period (6 weeks).	n/a	Responses to RFQ Clarifications	Within 5 working days of clarification being raised.
<b>DEFINITION OF COMPLETION</b>		<b>Within 8 weeks of RFQ issue unless otherwise agreed with the <i>Client</i></b>	

#### 1.5. Work Stage 4a – 65% Design and Target Cost Submission

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
<p>Attend Construction Partner and BAS meetings, as directed by the <i>Client</i>. These may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Design and technical</li> <li>• Information management (BIM)</li> <li>• Government Soft Landings</li> <li>• Construction impact</li> <li>• Risk</li> <li>• Programme</li> <li>• Logistics</li> <li>• Operations</li> <li>• Integration</li> <li>• H&amp;S</li> </ul>	Vol. 2	n/a	n/a

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
<ul style="list-style-type: none"> <li>Sustainability</li> <li>Stakeholder and Comms Management</li> <li>Benefits</li> </ul>			
Provide responses to RFQ Clarifications	n/a	Responses to RFQ Clarifications	Within 5 working days of clarification being raised.
Attend monthly meetings with Construction Partner commercial and procurement teams to confirm compliance with requirements and best value approach.	Vol. 3 Annex A	Updated latest best estimate of project cost	Monthly progress reporting
Attend cost roundtable one month prior to target cost submission	n/a	Minutes from cost roundtable	Within 5 working days of meeting
Certify interim and final accounts under the Construction Partner's Contract.	2.12	Certificate of completion of task orders.	In accordance with NEC4 Requirements.
<b>DEFINITION OF COMPLETION</b>		<b>Construction Partner's submission of 65% design and target cost proposal.</b>	

### 1.6. Work Stage 4b – Evaluation and Contract Award

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
Review and report on the Construction Partner's 65% Design Documents and price submission. Compile complete comments documentation (including comments from <i>Client</i> ).	2.9	TA report on technical and commercial acceptability of Construction Partner's proposal	Within 10 working days of submission of Construction Partner's 65% Design Submission.
Attend Construction Partners 65% Design Review Meeting and provide feedback to Construction Partner on comments made.	2.10	Update TA report	Within 5 working days of meeting.

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
Advise the <i>Client</i> on the suitability of the Construction Phase Plan as developed by the Construction Partner under CDM Regulations.	Vol. 2	Advice note on suitability of Construction Phase Plan.	Within 10 working days of submission.
Attend RFQ review meeting, chaired by <i>Client</i>	n/a	Minutes from Meeting	Within 5 working days of meeting.
Prepare Final Pre-Construction Information Pack (in accordance with the CDM Regulations).	Vol. 2	Pre-Construction Information	To be issued to Construction Partner following award of contract.
Investment Appraisal to support Full Business Case (FBC).	Vol. 3	Investment Appraisal	Final version to be submitted a minimum of 10 working days prior to FBC submission date.
Documentation to Support FBC	Vol. 2	TBC	As agreed with <i>Client</i> .
<b>DEFINITION OF COMPLETION</b>		<b>Award of construction contract to Construction Partner</b>	

### 1.7. Work Stage 4c – 100% Design, Procurement and Mobilisation

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
<p>Attend Construction Partner and BAS meetings, as directed by the <i>Client</i>. These may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Design and technical</li> <li>• Information management (BIM)</li> <li>• Government Soft Landings</li> <li>• Construction impact</li> <li>• Risk</li> <li>• Programme</li> <li>• Logistics</li> <li>• Operations</li> <li>• Integration</li> <li>• H&amp;S</li> <li>• Sustainability</li> </ul>	Vol. 2	n/a	n/a



Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
<ul style="list-style-type: none"> <li>Stakeholder and Comms Management</li> <li>Benefits</li> </ul>			
Provide responses to Technical Queries (TQ's) in conjunction with the <i>Client</i>	n/a	Responses to TQ's	Within 5 working days of TQ being raised.
Review subcontractor and supplier proposals from the Construction Partner, as directed by the <i>Client</i>			
Attend witness testing for FAT, trial erection and others, as directed by the <i>Client</i>		Witness reports	Within 5 working days of attendance
<p>Review and report on the Construction Partner's non-design deliverables. These may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>Programme</li> <li>Risk mitigation and opportunity realisation plans</li> <li>Construction method statement and activity plans</li> <li>Construction impact management plan</li> <li>Project Execution Plan</li> <li>Environmental management plan</li> <li>Sustainability management plan</li> <li>Logistics management plan</li> <li>Training and induction plan</li> </ul>	Vol. 2	Comments register	Within 10 working days of submission
Review and report on the Construction Partner's 95% Design Documents. Compile complete comments documentation (including comments from <i>Client</i> ).	2.9	95% Design Comments Register	Within 10 working days of submission of Construction Partners 95% Design Submission.

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
Attend Construction Partners 95% Design Review Meeting and provide feedback to Construction Partner on comments made.	2.10	Update design comments and minutes.	Within 5 working days of meeting.
Attend Construction Partners 100% Design Sign Off Meeting.	2.11	Minutes of meeting.	Within 5 working days of meeting.
Certify interim and final accounts under the Construction Partner's Contract.	2.12	Certificate of completion of task orders.	In accordance with NEC4 Requirements.
Advise the <i>Client</i> on the suitability of the Construction Phase Plan as developed by the Construction Partner under CDM Regulations.	Vol. 2	Advice note on suitability of Construction Phase Plan.	Minimum of 5 working days prior to 100% Design Sign Off Meeting.
<b>DEFINITION OF COMPLETION</b>		<b>Completion of 100% Design Sign Off Meeting and departure of construction team from UK</b>	

### 1.8. Work Stage 5 – Construction

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
<p>Attend Construction Partner and BAS meetings, as directed by the <i>Client</i>. These may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Design and technical</li> <li>• Information management (BIM)</li> <li>• Government Soft Landings</li> <li>• Construction impact</li> <li>• Risk</li> <li>• Programme</li> <li>• Logistics</li> <li>• Operations</li> <li>• Integration</li> <li>• H&amp;S</li> <li>• Sustainability</li> </ul>	Vol. 2	n/a	n/a

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
<ul style="list-style-type: none"> <li>Stakeholder and Comms Management</li> <li>Benefits</li> </ul>			
Provide responses to Technical Queries (TQ's) in conjunction with the <i>Client</i>	n/a	Responses to TQ's	Within 5 working days of TQ being raised.
Certify interim and final accounts under the Construction Partner's Contract.	2.12	Certificate of completion of task orders.	In accordance with NEC4 Requirements.
Provide Site Supervision	Annex B	See Annex B	Throughout WS5.
General Technical Advisor Role	-	As required	Respond to queries raised by BAS as required.
<b>DEFINITION OF COMPLETION</b>		<b>Construction works completed.</b>	

### 1.9. Work Stage 6 – Handover and Close-out

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
CDM Advisor to review the Health and Safety File(s) and provide comment on compliance with the CDM Regulations.	Vol 2.	Advice note on suitability of Health and Safety File(s).	Minimum 10 working days prior to handover.
Review Construction Partners Operation and Maintenance Manuals, as directed by the <i>Client</i>	2.13	O&M Comments Register.	Minimum 10 working days prior to handover.
Advise the Project Manager on the issue of the Works Completion Certificate(s)	2.12	Works Completion Certificate(s).	At construction handover meeting.
Attend Project Critique Meeting.	2.14	Record as lessons identified (see below)	Within 5 working days of construction handover (combine with Construction Handover Meeting wherever possible)

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
Draft Final Lessons Identified Log	2.15	Draft Final Lessons Identified Log	Within 5 working days of Critical Project Review Meeting.
<b>DEFINITION OF COMPLETION</b>		<b>Issue of Works Completion Certificate.</b>	

#### 1.10. Work Stage 7 – In Use

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
Transfer of ongoing Project Management Documentation to <i>Client</i> .	2.16 and Vol. 2	All ongoing Project Management Documentation	Within 10 working days of commencing Defects Period.
Support during Defects Period.	2.17	TBC	As agreed with <i>Client</i> .
Issue Defects Period Completion Certificate(s).	2.12	Defects Period Completion Certificate(s).	At end of Defects Period and only when all defects have been rectified by the contractor and signed-off by the <i>Client</i>
<b>DEFINITION OF COMPLETION</b>		<b>End of Defects Period.</b>	

#### 1.11. Work Stage 8 – Financial Close

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
Prepare and issue the draft calculation of any 'Completion Payments' for submission to the Construction Partner.	Vol. 3	Draft calculation of Completion Payment.	Min. 10 working days prior to end of defects period.
Determine the relevant 'Completion Payment' due to the Construction Partner (including reconciliation of amounts payable).	Vol. 3	Details of Completion Payment & full reconciliation.	Min. 5 working days prior to end of defects period.
Provide Completion Report.	2.18	Completion report and	Deliver draft final concurrently with Draft Calculation of Completion Payment.

		Completion Documents.	Final revision to be issued within 5 working days of end of Defects Period.
Provide completed Lessons Identified Log	2.15	Lessons Identified Log	Deliver as part of Completion Report.
Provide schedule of records.	2.19	Schedule of Records	Deliver as part of Completion Report.
<b>DEFINITION OF COMPLETION</b>		Issue of Final Completion Report, Defects Completion Certificate, Lessons Identified Register, Schedule of Records and Receipt by <i>Client</i> of all documents necessary for carrying out final computation	

## **2. Specific Requirements for Deliverables**

### **2.1. Developed Design Initiation Meeting**

The Developed Design Initiation Meeting is intended for the *TA* to undertake a full review of all works that have taken place to date on a project in conjunction with both the Project Manager and the project's Key Stakeholders (including Facility Maintenance and End Users to support Government Soft Landings objectives – see Volume 2).

The meeting shall critically review the project works undertaken to date against the project objectives and requirements as set out in the Project Management Documentation (i.e. Strategic Outline Business Case). In doing so, the *TA* shall challenge assumptions and decisions made to date in selection of the preferred option proposed as the Developed Design.

The *TA* shall allow for attendance of representatives from each of the key disciplines appropriate to a given project, this shall include key design disciplines as well as Cost Consultants (to commence initial assessment of cost estimates).

The *TA* shall be required to capture any changes identified in real time (i.e. amend drawings, update cost spreadsheets) and also provide minutes from the meeting.

The *TA* shall be cognisant that these meetings may need to be held over a number of days, dependent on the size of the project and shall allow for a minimum of 2 days per project.

### **2.2. Operation & Maintenance Manuals Structure**

The *TA* shall work with the *Client* to develop the structure of the Operation and Maintenance Manuals (O&Ms) from the earliest stages of the project and continue to amend the structure as the project progresses.

The structure of the O&Ms must be formed in a manner that is compatible with the relevant BAS systems and shall be appropriately captured in development of the BIM Protocols. It must also incorporate all requirements of the Health and Safety File as required under CDM Regulations.

The responsibility for the development of the O&Ms transfers to the Construction Partner after work stage 3b. The *TA* shall undertake periodical reviews of the O&Ms developed by the Construction Partner (see Section 2.13).

### **2.3. Environmental Impact Assessment**

Whilst overseas projects are not subject to UK Planning Legislation, the *TA* shall make the same level of allowance for planning, including developing documentation and drawings to the same level of detail as would be provided for a UK project, as this information shall be required to support Environmental Evaluations, for example, in line with the requirements of the Protocol on Environmental Protection to the Antarctic Treaty

### **2.4. Developed Design**

The *TA* shall produce a Developed Design to demonstrate to the *Client* that the project objectives and requirements are being met. The format of the Developed Design Report shall be based on the structure of the Project Brief (where this has been previously developed) although the structure shall vary dependent on the scope of the particular project.

The *TA* shall allow for the following as a minimum:-

- A Developed Design Report, which shall subsequently be expanded to form the Works Information (see Section 2.6) including as a minimum;
  - summary of project objectives and requirements,
  - summary of design solutions,
  - summary and appraisal of existing site condition,
  - details of design for each engineering discipline,
  - critical systems analysis (see Volume 2),
  - cost plans and Through Life Cost assessment (see Vol. 3),
  - details of Value Engineering (see Section 2.5),
  - sustainability assessments (CEEQUAL et al – see Volume 2),
  - fire strategy (where applicable),
  - room data sheets (where applicable) and
  - all relevant supporting information (as annexes), including any survey information obtained for the works.
- The following annotated drawings;
  - existing site (including site boundary, buildings and utilities etc.),
  - general arrangements, elevations & sections (inc. materials and structural form),
  - internal and external indicative service routes and connection points,
  - site access routes and Construction Partner compounds / laydown areas and
  - phasing drawings (as appropriate).

All drawings shall be developed in accordance with BIM Protocols (see Volume 2) and shall include general: dimensions, levels, structural elements, laydowns (including major plant), materials, finishes, key features, health and safety warnings, scales, appropriate notes etc.

Drawings shall also have a co-ordinated and standardised appearance (i.e. title blocks, numbering systems shall be the same for drawings produced by either the *TA* or any members of his supply chain).

In all instances, the Developed Design shall be developed sufficiently to obtain all necessary environmental approvals (see Section 2.3) and shall

On [draft] completion of the Developed Design works, the *TA* shall allow for attendance at a Developed Design Meeting to review the design in conjunction with the *Client's* Key Stakeholders. As part of this meeting, the *TA* shall present the works, and respond to questions and feedback from the *Client*. The report shall then be updated to reflect this.

The *TA* is not required to include calculations as part of his Developed Design Report submissions, but shall make these available for inspection by the *Client* should they be required. The *TA* shall make any calculations, and supporting information, available within 5 working days of the request being made by the *Client*.

## 2.5. Value Engineering

The *TA* shall carry out Value Engineering appraisals of any design for which he is responsible to provide the necessary function reliably at the lowest possible cost in terms of Through Life Costing. The *TA* shall incorporate the findings of any such appraisals into his design.

The *TA* shall, at the same time as producing his Developed Design, produce a Value Engineering report which he shall update throughout the stages of the design for which he is responsible. The Value Engineering report shall include the preparation of option appraisals and reasoned arguments to demonstrate why particular systems, plant, equipment, materials and the like have been selected in preference to others for incorporation into the Works, taking into account the planned operational life of the relevant building or facility.

## **2.6. Works Information**

The Works Information (WI) shall be based on the Developed Design Report, which shall be updated to include any additional information required to clearly set out the requirements and constraints for the Construction Partner's Contract. The WI shall be developed in a manner to ensure satisfactory completion of the Works without the need for any changes resulting from any error in, omission from, or inadequacy of, the information provided by the *TA*.

The WI shall be produced fully in line with the requirements of the NEC4 Engineering and Construction Contract (ECC) or Term Service Contract (TSC) and shall contain as a minimum;

- A background to the requirement for the project,
- A summary of the existing site conditions (referencing site information),
- A summary of the design philosophy adopted to date (for each discipline),
- Details of the works that the Construction Partner is responsible for, including clearly listed requirements for design submissions at the 65%, 95% and 100% stages.
- Details of specification etc. for each individual works discipline that the Construction Partner shall be required to achieve,
- Details of any deliverables required from the Construction Partner (either design or construction),
- Details of any constraints imposed on the Construction Partner both for working practices and technical design (i.e. site operational constraints), and
- Pricing Documents.

## **2.7. Site Information**

The *TA* shall be responsible for co-ordinating and collating all relevant Site Information.

This shall be developed in accordance with the requirements of the NEC4 ECC or TSC and shall clearly define where information is warranted or otherwise.

All survey information specifically produced or procured by the *TA* as part of the works shall be transferred to the Construction Partner as warranted information as part of the Site Information.

## **2.8. Construction Partners Briefing**

Following appointment of the Construction Partner, the *Client* shall arrange a meeting between the Key Stakeholders for the project; the *TA* shall allow for attendance at the meeting by representatives from each of the disciplines in his design team. The *TA* shall also allow for the provision of minutes following the meeting. Depending on the complexity of the project this meeting may become a series of workshops.

The principal purpose of the Construction Partner's Briefing is to facilitate direct discussions between the *TA*'s design team and the Construction Partner's design team in order to articulate



how designs have been developed to date to comply with the *Client's* requirements, and discuss the theory adopted behind the design development.

Whilst the *TA* is not responsible for the technical design under design and build projects, they shall work with the Construction Partner in a collaborative manner for the benefit of the project.

The Construction Partner's Briefing shall also clearly set out to the Construction Partner what they are required to deliver at each of the design submission stages in order to facilitate comprehensive submissions at each stage.

## **2.9. Design Reviews**

The *TA* shall allow for undertaking a full design review of the submissions made by the Construction Partner for the 65% design and 95% design. There is not a requirement for the *TA* to do a full review of the 100% design.

The following details the process the *TA* shall allow for in terms of reviewing the Construction Partners design works at each submission stage.

### **2.9.1. 65% Design Submission Reviews**

For the 65% design submission, the Construction Partner shall submit the documents identified in the Works Information to the *Client* and the *TA*.

The *TA* shall be responsible for reviewing the submission made by the Construction Partner for compliance with the submission requirements set out in the Works Information. Where the submission is found to be incomplete, the *TA* shall notify the *Client*, who shall subsequently notify the Construction Partner that an updated submission is required. The *TA* shall not undertake any review works on the incomplete submission unless specifically requested by the Client.

Once a complete design submission is made, the *TA* shall review the design submission, using the same personnel who were responsible for the various technical aspects of his Developed Design works, as far as is practicable. The *TA* shall also undertake an overarching review of the holistic design submission to provide comment on co-ordination, buildability and suitability to meet project requirements.

The *TA* shall record all comments made by his reviewers in a single register (referred to as Design Comment Register) which shall utilise a grading mechanism agreed with the *Client* to classify the significance of the comments made in relation to compliance with the project requirements.

The *TA* shall be responsible for incorporating the comments from the *Client* into this register and reviewing the complete register to omit duplicate or inaccurate / inappropriate comments. The Project Manager shall be responsible for collating, reviewing and filtering comments from the *Client's* Stakeholders.

Where significant issues are noted in the Construction Partners design, these shall be captured in the Design Comment Register and highlighted as requiring rectification before the design works are allowed to progress to 95% design submission.

The Design Comment Register shall be issued to the Construction Partner and used to track the progress in addressing the comments raised and shall subsequently be followed with a Design Review Meeting (see Section 2.10).

The Construction Partner shall be required to make a second submission of his 65% design once they have rectified the critical issues identified in the Design Comment Register. The *TA* shall

undertake a second review of this submission to confirm that the critical issues have been addressed sufficiently to allow the design works to progress to the 95% design submission.

This second review shall be undertaken as a face to face meeting with the Construction Partner where they shall demonstrate to the *TA* and *Client* how the critical issues identified have been sufficiently addressed in the current design submission. The *TA* shall allow for attendance of the relevant personnel for the design review process (this MUST include the *TA* Project Manager).

The *TA* shall ensure that the Design Comment Register is set up in a manner which records the progress, development and resolution for each of the comments recorded.

### **2.9.2. 95% Design Review**

The process described for the 65% design submission shall be repeated for the 95% design submission, with the *TA*'s design team making further comments against the more detailed design submission. These shall again be recorded in the [same] Design Comment Register, followed with a design review meeting, after which the Construction Partner shall make a second submission of the 95% design and the *TA* shall undertake a second face to face review of the amendments made with the Construction Partner.

The Construction Partner shall not be permitted to progress to 100% design submission until all comments raised both at 65% and 95% are adequately addressed.

### **2.9.3. 100% Design Review**

Prior to the 100% design sign off meeting, the *TA* shall be required to undertake a partial review of the 100% design submission. This shall concentrate on;

- The design addresses all legislative requirements (including Building Regulations, Health and Safety and Fire Safety),
- The documentation required under CDM Regulations for the construction phase is in place,
- The O&M Manuals / Health and Safety File have been established,

It is the responsibility of the Construction Partner to ensure that all comments raised at previous stages have been addressed and incorporated in the design.

No further design comments shall be required at this stage, unless significant issues have been identified that have arisen since the 95% review (notably in relation to the above).

The *TA* shall advise the *Client* of the suitability (or otherwise) of the Construction Partners 100% design submission in these areas. The Construction Partner shall then be asked to attend the 100% Design Sign Off Meeting (see Section 2.11). Formal approval shall be given by the *Client* to progress to Work Stage 5.

## **2.10. 65% and 95% Design Review Meetings**

Design Review Meetings shall be held once the 65% and 95% design submissions are made by the Construction Partner, these have been reviewed by the *TA* and *Client* and the Design Comments Register issued to the Construction Partner. The comments on the respective design submission made shall be discussed between all parties (including the Construction Partner) to ensure that the comments are correctly understood and the appropriate remedial actions identified and agreed. Following the Design Review Meetings, the *TA* shall amend the Design Comments Register as necessary and reissue to the Construction Partner.

### 2.11. 100% Design Sign Off Meeting

Once the *TA* has advised that the Construction Partners design is sufficiently developed to progress to construction (Work Stage 5), the Construction Partner shall be asked to present his final design to the *Client's* Key Stakeholders and Project Board.

The *TA* shall allow for attendance of his project manager at this meeting. The agenda shall be produced by the Project Manager, and shall be chaired by the AIMP Programme Director. The *TA* shall allow for taking, recording and issuing minutes.

### 2.12. Certification of Interim and Final Accounts

The *TA* shall undertake a financial and technical review at milestones agreed with the *Client* and confirm the amounts requested by the Construction Partner are appropriate and that the works to achieve the milestones are complete. The *TA* shall advise the Project Manager if the amount payable differs from the Milestone submitted. The following works may form part of the *TA's* scope for review of the Construction Partner's Application for Payment to ensure that Prices are not artificially inflated. The services to include will be agreed in the Task Order.

- Ascertaining the Certifiable Value:
  - Defined Cost Assessment – People; Plant & Materials; Sub-Contractors; Equipment
  - Disallowable Cost review
  - Application of the Defined Fee uplift
- Review of the Contractor's share – Price for Services Performed to Date (PSPD) compared to the Target Cost
- Agreement with the Construction Partner

### 2.13. Review of O&M Manuals

The *TA* shall be required to periodically (minimum every two months) review the Construction Partners development of the O&Ms to ensure that they are following the agreed format (see Section 2.2) and that the Construction Partner is appropriately collating and developing the documentation as the project progresses. Comments on the development shall be issued to the Construction Partner via the O&M Comments Register, which shall be collated and maintained by the *TA*.

As the works reach completion, and as a minimum of 10 working days prior to handover, the *TA*, in conjunction with the *Client* and the Construction Partner shall undertake a formal review of the O&M Manuals to review the content for accuracy of "as-built" information.

The reviewers shall use the *TA's* contemporary records of the works (see Annex B) to ensure the "as-built" information is correct. This is of particular importance for the elements of the works which are no longer visible, and therefore the requirement for comprehensive record keeping by the *TA's* is strongly reiterated.

All comments made on the O&M Manuals shall be recorded in the register by the *TA* which shall subsequently be issued to the Construction Partner. The *TA* shall also provide feedback to the *Client* regarding the overall suitability of the O&M Manuals for acceptance.

It is anticipated that as periodical reviews shall have been undertaken through the duration of the construction works, that comments shall be minimal, however, the *TA* shall allow for undertaking a second review a maximum of 5 days prior to the handover of the works in order to ensure that the

completed documentation has addressed all comments and appropriately captures all works up to the completion date.

Where the *TA* identifies that the O&M Manual Review has highlighted significant shortfalls in the structure and content of the documentation, both the *TA* and the Construction Partner shall be required to attend a formal meeting with the *Client* to explain the rationale for the shortcomings and the methodology for remedying the issues highlighted.

## **2.14. Project Critique Meeting**

Immediately following on from the Construction Completion Meeting (or as a maximum within 5 working days), the Project Manager shall facilitate a meeting of the *TA*'s, *Client*'s and Construction Partner's personnel involved with the project to openly discuss the development of the project. This shall be an open discussion whereby all parties are encouraged to give honest opinions on the project.

The *TA* shall be required to record comments made (where appropriate) in the Lessons Identified Log. No formal minutes of the meeting shall be required.

As detailed under Section 2.15, in recording the output from the meeting in the Lessons Identified Log, the *TA* shall ensure that all comments remain impartial and do not attempt to identify the source of the comments, or attribute responsibility.

## **2.15. Lessons Identified Log**

Throughout the lifecycle of a project, the *TA* shall be required to maintain a Lessons Identified Log to capture both positive and negative elements of the project.

The Lessons Identified Log shall record where lessons have been identified as either beneficial or otherwise and how they impact on the current project and how they were addressed (adequately or otherwise). The Lessons Identified Log shall most importantly capture how the issues should be identified and appropriately addressed in future projects and potential impact if they are not.

The Lessons Identified Log shall not attempt to apportion blame or credit for negative or positive issues respectively; i.e. it shall remain an impartial record of the project.

## **2.16. Transfer of Project Management Documentation to Project Manager**

At the beginning of the Defects Period the *TA* shall transfer the final versions of the project management documentation to the Project Manager who shall be responsible for maintaining them during the Defects Period. The Project Management Documentation are all items in Volume 2, Section 1 described as "*ongoing throughout all work stages*", including;

- Risk and Opportunity Management Register (ROMR),
- Configuration Control Register,
- MDAL,
- RFIs Registers,
- Early Warning Registers and
- Compensation Event Registers.

## 2.17. Technical Advisor Support during Defects Period

The *TA* shall not allow for any technical support to the *Client* during the Defects Period in the Pricing Document. He shall however allow for the works associated with Work Stage 7 – Financial Completion and Handover, and these shall be undertaken during the Defects Period and prior to project closure.

Where the *Client* does require specific technical support during the Defects Period, this shall be considered as a Compensation Event unless the issues arising are a direct result of the works provided by the *TA* for the project.

The *TA* shall make a nominal allowance during this period for answering general queries (this shall be considered as no greater than 1 hour per week). The *TA* shall notify the Project Manager immediately when they consider that works within the Defects Period exceed this allowance and considers additional monies are payable.

## 2.18. Completion Report

Prior to the agreement and/or payment of the last payment due under the Construction Partner's Contract, the *TA* shall prepare a Completion Report which shall review all aspects of the actual performance of the completed Project.

The Completion Report shall be developed in an honest manner which records both strong and poor aspects of performance across all elements of the project. The report must not be written in a manner which attempts to apportion blame to any party; it shall only capture factual aspects of the works. It shall incorporate the key findings of the Lessons Identified Log, and include the complete document as an annex to the Completion Report.

This report shall be developed with input both the Construction Partner and the *Client's* Key Stakeholders. The *TA* shall allow for a minimum of 1 day for a Project Completion Review Meeting attended by all key stakeholders to have open discussions regarding the project performance. The *TA* shall take minutes of this meeting and ensure that all comments are appropriately recorded in the Completion Report.

The Completion Report shall incorporate the Lessons Identified Register (see Vol. 2).

## 2.19. Schedule of Records

The *TA* shall, within 7 days of delivery of the Completion Report and the Completion Documents, forward to the Project Manager a schedule of all the documents held by the *TA* under Clause Z9, together with details of where the documents are being held.

At any time after the Date of Completion, but within a period of 12 years the *TA* shall, when requested by the *Client*, afford such facilities as the *Client* may reasonably require for his representatives to visit the *TA's* premises and examine the records maintained.

The *TA* grants to the *Client* the right to take possession of all documents held in the event that the *TA* for any reason ceases to trade or the Termination of the Contract occurs.

## Annex A - Scope of Services for Site Supervision

Requirement	Site Supervision (TA)	Contract Supervision (Client/TA)	UK Support (TA)
<p><i>“During the period of carrying out the Works, the TA shall carry out such regular inspections as are necessary to be able to confirm that;</i></p> <ul style="list-style-type: none"> <li><i>the Construction Partner is constructing the Works and is operating the appropriate quality control and quality assurance systems in accordance with his obligations under the Construction Partner’s Conditions of Contract,</i></li> <li><i>the Construction Partner is employing adequate resources to enable the completion of the Works by the completion dates (as defined in the Construction Partner’s Conditions of Contract),</i></li> <li><i>the Construction Partner is undertaking the works in accordance with his Risk Assessments, Method Statements and Activity Plans, and is compliant with all appropriate UK health and safety legislation,</i></li> <li><i>the Construction Partner is fully compliant with all the requirements of the Comprehensive Environmental Evaluation,</i></li> <li><i>the Construction Partner is undertaking the works in accordance with the agreed station integration plans, and</i></li> <li><i>the Construction Partner is otherwise carrying out the Works in accordance with the Construction Partner’s Contract.</i></li> </ul> <p><i>The TA shall ensure that the Construction Partner is able to provide contemporary records of the works that were undertaken. As a minimum this shall include;</i></p> <ul style="list-style-type: none"> <li><i>hand annotated construction drawings showing the dates individual elements of works were undertaken and any deviations from the construction revisions (i.e. to show “as built”),</i></li> <li><i>updates to BIM model</i></li> <li><i>daily Site Supervision records, detailing works undertaken, working times, stoppages and rationale, numbers of personnel on site, plant in use, weather conditions etc.</i></li> <li><i>photographs and drone footage of the works with relevant datum (i.e. measurable scales etc.) and</i></li> <li><i>information from witnessing of testing and commissioning undertaken, providing details of the tests undertaken and the outcome and where appropriate, remedial actions taken to remedy issues.</i></li> </ul> <p><i>The Site Supervisor shall be required to liaise directly with the Construction Partner’s personnel throughout the works both formally and informally as the situation dictates.”</i></p> <p>(L) = Lead, (S) = Support</p>			
Assist Project Handover Process at Start and End of Each Construction Season (Photographs to capture site baseline)	S	L	
Site Inspections to Confirm Compliance with Requirements in the Works Information	L	S	
Quality Assurance to Confirm Compliance with Requirements in the Works Information	L	S	

Requirement	Site Supervision (TA)	Contract Supervision (Client/TA)	UK Support (TA)
Review of workmanship inspections to Confirm Compliance with Requirements in the Works Information and ITP's etc.	L	S	
Programme Reviews with BAM to Ensure Adequate Deployment of Resources to achieve milestones. Liaison with BAS Project Manager to confirm acceptance of monthly programme updates. Rigour in recording delays/downtime and awareness of contract implications.	L/S	L	S
Identification of Defective Works (including assisting the Contractor or BAS to raise an NCR), completed as the work progresses and not at the end of the project.	L	S	
Identification of Best Practices, including good working practices, safety observations, weekly reports etc.	L	S	
Review of Method Statements/Risk Assessments, ITP's etc. TA technical team to review activity plans.	L	S	S
Review of Material Approvals process ( <i>where requested and appropriate</i> )	S	L	
Review of Technical Queries ( <i>where requested</i> )	S	L	S
Review of Non-Conformance Reports	S	L	S
Attend witness Testing and Commissioning as applicable. (crane commissioning, fender deployment, rockfill, pull test on bollards)	L	S	
Review Test Results and procedures	L	S	S
Health and safety audits (Works Information section 7.1.3). Site walkovers, recording and reporting any issues.	L	L/S	
Environmental audits (Works Information section 7.2.4) to ensure full compliance with the	S	L	

Requirement	Site Supervision (TA)	Contract Supervision (Client/TA)	UK Support (TA)
CEE and FCO permit conditions.			
Witnessing weekly environmental inspection tours	L	S	
Maintain the Risk and Opportunities Register. BAS responsibility, with input from TA on site.	S	L	S
Monitor Adherence to Risk Mitigation Plans, accessed through the ROMR on ProjectWise.	L	S	
Assist with implementing Risk Mitigation Plans ( <i>where requested and where BAS own the risk</i> )	L	S	
Advise and Assist with Change Control	S	L	S
Turner & Townsend to reconcile Contract Sum, variations and Payments to BAM ( <i>where requested</i> )	S	L	S
Prepare and feed into NERC/BAS Senior Management Progress Reports.	S	L	
Maintain a Daily Site Diary; detailing activities undertaken, working times, stoppages and reasons, personnel numbers, plant in use, weather conditions etc.	L		
Review Contractor's 'Marked-Up' Drawing Prints for As-Builts.	L	S	
Facilitate Completion of Milestone Certificates by the Contractor	S	L	S
Update and monitor the Stakeholder & Communications Management Plan	S	L	
Provide photographs and other information to BAS Comms team as requested.	L	S	
Update and monitor the Benefits Realisation Plan	S	L	
Update and monitor the Government Soft Landings	S	L	
Update and monitor the Configuration Control	S	L	



Requirement	Site Supervision (TA)	Contract Supervision (Client/TA)	UK Support (TA)
Ensuring Handover Documents are completed by the Contractor, including; H&S File, O&M Manuals, GSL Documents, Piling Records, As-Builts, Progress Photographs.	L	S	S
Facilitate the CEEQUAL Assessment, as required.	L	S	S
Attendance at Daily Planning/Briefing Meetings, or ad-hoc meetings as require and liaison with BAS station staff.	L	S	
Attendance at Tool Box Talks and Safety Briefings as required.	L	S	
Monthly BAS/TA PM Progress Meetings	S	S	
Attendance at BAS/BAM PM Progress Meetings as requested	S	L	
Attendance at Working Group Meetings		L	S
Implement the station integration plan	L	S	
Comply with BAS Protocols on behaviour etc, comply with authority of the Rothera Station Leader and comply with BAM construction site rules.	L	S	

**Exclusions:**

- Quality Assurance to Requirements in Contractor's Design.
- Approval of Test Samples.
- Certify Construction Completion Certificate.
- Certify Material Approval's, Technical Queries or Non-Conformance Reports.
- Certify Method Statements and Risk Assessments.
- Certify contract administrative documents; including Change Control.
- Certify Monthly Programmes.