

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

Scope

Volume 3

**ENABLING WORKS
(Work Stage 0 to 2)**

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1. Specification and Description of Services – WS 0 to 2

1.1. General Deliverables

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

Information pertaining to the general deliverables required for all projects (i.e. all works undertaken) is presented at Volume 2 and Information pertaining to the specific deliverables for WS 3 to 8 is presented at Volume 4.

1.2. General Requirements for Work Stage (WS) 0 – 2

The scope of works that shall be required from project initiation (WS 0) to approval of the Strategic Outline Business Case (SOBC – see Section 2.7) in order to progress a preferred option for a project (WS 3 onwards) shall vary significantly between projects, dependent on the size, nature and scope of options available, and as such it is not possible to define specific deliverables for individual projects at this juncture. Work stages shall be aligned to the RIBA Plan of Work 2015, except for MEP work stage 3, which will be aligned to BSRIA BG6 Work Stage 3a.

The following therefore only provides a guideline as to the scope of input that shall be required by the *TA* when they are engaged to support delivery of these works stages.

In the event that the *Client* requires input from the *TA* to support delivery of WS 0 to 2, individual Task Orders shall be submitted detailing the specific requirements and Contract Data for a particular project. Bespoke fees for these services shall be agreed before work commences.

The *Client* may also use an Enabling Order process whereby a Task can be initiated to enable more detailed scoping of the works that shall be required in order to allow the *TA* to provide a more cogent fee for completing the project. This shall be based on the level of complexity or novel and potentially contentious projects.

1.3. Work Stage 0 – Strategic Definition

This shall typically be undertaken by the *Client*.

Where the *TA* is tasked with a work stage 0 project, it will be aligned to the RIBA Plan of Work, stage 0, Strategic Definition.

1.4. Work Stage 1 – Preparation and Brief

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
Initial Assessments	2.1	Initial Assessment	As agreed with <i>Client</i> .
Feasibility Report	2.2	Feasibility Report	Final version at completion of WS 1.
Ad-hoc Advisory Services	2.3	Advice Notes / reports	As agreed with <i>Client</i> .
Support <i>Client</i> in delivery of Strategic Outline Plan (SOP)	Vol. 2 & 2.4	n/a (delivered by <i>Client</i>)	To be provided within agreed deadlines for delivery of SOP.
Investment Appraisal to support SOP.	0 & Annex A	Investment Appraisal	Final version at completion of WS1.
Definition of Completion		To be confirmed for individual Task Orders.	

1.5. Work Stage 2 – Concept Design

Duties and Responsibilities	Ref.	Deliverables	Point of Delivery
Assessment Study	Error! Reference source not found.	Assessment Study report.	Final version at completion of WS2.
Independent Peer Review	Vol. 2	Peer Review Report	Prior to delivery of Final Assessment Study Report.
Support <i>Client</i> in delivery of Strategic Outline Business Case (SOBC).	2.7	n/a (delivered by <i>Client</i>)	To be provided within agreed deadlines for delivery of SOBC.
Investment Appraisal to support SOBC.	0 & Annex A	Investment Appraisal	Final version at completion of WS2.
Supplementary Definition Studies	2.8	Definition Study	As agreed with <i>Client</i> .
Project Design Brief	2.9	Project Design Brief	Following Assessment Study; to be agreed with <i>Client</i> .

Definition of Completion		To be confirmed for individual Task Orders.
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2. Specific Requirements for Deliverables

For all the following deliverables, detail of specific project requirements for the *TA*'s scope of works shall be specified in the individual Task Orders.

The following provides the minimum requirements that the *TA* shall be expected to deliver at work stages (WS) 1 and 2.

2.1. Initial Assessments

The *TA* shall be required to undertake a comprehensive review of the existing Project Information, in order to provide advice on areas where additional information shall be required to support delivery of the project.

The *TA* shall be required to provide early advice on the viability, costs and risks associated with any initial options identified for further consideration by the *Client*, as well as to advise on possible alternative solutions to pursue.

The *TA* shall be required to liaise with the Project Manager to ensure that the rationale, requirements, and objectives for the project are understood and that any solutions proposed target these appropriately. The *TA* shall specifically note the requirement for Government Soft Landings, and Critical Systems Analysis (see Volume 2), must be considered even at the initial assessment stage.

2.2. Feasibility Report

Typical tasks that shall be required from the *TA* for the feasibility report may include;

- review and develop the Work Stage 0 Strategic Project Definition received from the *Client* with the project team including Project Objectives, Quality Objectives, Project Outcomes, Sustainability Objectives, Project Budget and other parameters or constraints.
- identification and comparative review of feasible options to address the *Client*'s project requirements (options appraisal), with the recommendation for a single preferred main option,
- review and update existing project information as required,
- facilitate workshops and information gathering sessions with key stakeholders,
- provide cost consultancy advice including Rough Order of Cost (ROC) estimates for options identified (including both capital expenditure [CapEx] and resource costs),
- provide carbon cost estimates for options identified,
- identify survey and investigation requirements (see Volume 2),
- provide advice on Construction Partner procurement options,
- provide advice on buildability and handover strategy
- provide initial technical advice and
- provide support to the *Client* for the development of the Strategic Outline Plan (SOP).

2.3. Ad Hoc Advice

The fees for ad hoc advice shall be agreed between the *Client* and the *TA* based on a proposed work breakdown schedule developed by the *TA* and priced using the standard rates submitted under the Pricing Document.

2.4. Strategic Outline Plan

The Strategic Outline Plan (SOP) is the first of the formal business cases that is required to support the project requirement. See Volume 2 for further information on the requirement for Business Cases.

The SOP shall be developed by the *Client*. The *TA* shall be required to provide input to the development of the SOP, including providing supporting information for the business case and assist in reviewing and commenting on draft and final submissions.

The *TA* shall be required to produce the Investment Appraisal information to support the SOP (see Section 2.5).

2.5. Investment Appraisal

The *Client* operates a project management process which aligns with the Public Sector Business Case, “Five Case Model” which requires financial approvals at 4 No. key points through a project lifecycle;

- Strategic Outline Plan (Work Stage 1),
- Strategic Outline Business Case,
- Outline Business Case and
- Full Business Case.

Whilst the principal business case documentation shall be developed by the *Client*, with support from the *TA* as required, the *TA* shall be required to produce the Investment Appraisals. These shall be developed in accordance with the requirements of the HM Treasury Green Book (<https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>).

2.6. Concept Design

The Concept Design shall be utilised to support the Strategic Outline Business Case (SOBC) and therefore the *TA* shall be required to ensure that any analysis done for the Assessment Study aligns with the requirements of the SOBC (see Section 2.7). For this, the Assessment Study shall generally consider a minimum of 4 No. sub-options, including a “Do nothing” option, based on the main option selected from the feasibility stage.

Typical tasks that shall be required from the *TA* for this work stage may include;

- detail the sub-options being considered under the Assessment Study,
- preliminary design works (including outline drawings), including consideration for maintenance and operational strategy,

- surveys and investigations, as required (see Volume 2),
- Identify key suppliers and inputs, including long lead items,
- indicative programmes (including construction works),
- sustainability strategy & appraisals, and environmental impact assessment,
- liaison with service providers and other third parties (see Volume 2),
- cost estimates for each option considered,
- costed risk analysis using the Risk and Opportunities Management Register (ROMR),
- develop financial information for the Investment Appraisals (see 2.5) and
- provide support to the *Client* for the development of the SOBC.

2.7. Strategic Outline Business Case (SOBC)

The SOBC shall be developed by the *Client*. The *TA* shall be required to provide input to the development of the SOBC, including providing supporting information for the business case and assist in reviewing and commenting on draft and final submissions. See Volume 2.

2.8. Supplementary Definition Studies

Where Supplementary Definition Studies are required, the *TA* shall be required to provide further detail pertaining to the preferred option identified in the Assessment Study to clarify any unacceptable risks which might otherwise question the viability of the preferred option and develop suitable mitigation plans.

When required to produce a Supplementary Definition Study, a Task Order shall be issued to the *TA* detailing specific requirements.

2.9. Project Design Brief

The Project Brief documentation shall detail and expand on the preferred option identified through the Concept Design in order to provide sufficient information to support the business case for progressing the single preferred option.

The project brief shall provide initial information in relation to;

- project objectives,
- methodology used for engagement of Key Stakeholders, incorporation of User Requirements and project constraints
- general structural form, materials and lay down,
- general principles of building management systems and utilities,
- general arrangement, elevations and site constraints (including principal dimensions),
- identification of critical systems to support operational requirements,
- compliance with relevant legislation and design standards,
- outline costings, risk analysis and (where appropriate) uncertainty.

The Project Brief shall form the basis for the Developed Design Report and subsequently the Works Information to be developed as part of the future stages of the project works (WS3 onwards). As such, the report shall be structured in a manner that will support development to form these documents.

Annex A – Cost Consultancy Services

A1 Background

Whilst BAS has a finance division, resources specific to construction projects in particular are limited and therefore the *Client* may require specific support in this particular area of expertise.

This annex is aimed to provide additional information as to the scope of services that the *TA* may be called upon to provide for the *Client*, *for all work stages as required (i.e. not limited to work stages 0 to 2)*. Each Task Order will specify which of the services below are required for that particular stage of that project.

A2 Scope of Cost Consultancy Services

The Cost Services the *Client* may require include;

- cost planning
- estimating and cost advice,
- risk analysis and management,
- investment appraisals (to support business cases),
- through life costing
- financial evaluation and tender analysis,
- value management (planning and engineering),
- cost database development and
- forensic, claims and dispute resolution.

The range of skills and expertise required include;

- quantity surveying (all aspects),
- cost engineering
- contracts & procurement and
- construction economics.

A3 Tasks

- i. Estimating and Cost Advice

The estimating requirements could relate to any aspect and/or stage in the development of a project e.g. early stage Order of Cost Estimates, Cost Plan Estimate/s, Pre-Tender Estimates (PTE) etc. The method of estimating (“bottom up”, comparative and/or parametric) shall be as appropriate for the project stage. Presentation shall be consistent (as appropriate) with the cost breakdown structure agreed with the Client, with risk implications considered and a Master Data and Assumptions List (MDAL) produced in support.

All estimates shall separately identify:

- TA Fee WS1 – 3,

- TA Fee WS 4 – 8,
- Construction Partner pre-construction fee,
- Construction Costs,
- Target Cost Exclusions,
- Project Shared Costs,
- Contractor Core Team Costs,
- BAS Support Costs,
- BAS Finishing Cost, and
- Client Risk.

A spread of expenditure of the total Project Costs categorised in the above manner shall also be required.

ii. Risk Analysis and Management

Refer to Volume 2.

iii. Investment Appraisals

Refer to Section 2.5. IAs shall be developed in accordance with the requirements of the HM Treasury Green Book (<https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>). The TA shall provide support to the *Client* Finance Department.

iv. Through Life Costing

The criteria for investment decisions shall not be based purely on capital costs alone, but on the whole cost of ownership. This is a combination of capital, maintenance and operational costs through to final disposal of the asset including receipts, residual value and/or demolition costs.

The sustainability aspect of an investment decision, in terms of the resources used (including carbon footprint) during the manufacturing process of components and materials shall be considered, as well as, environmental issues associated with the investment's operational life (working life) and its final disposal. Energy consumption can be a significant consideration and part of a through life cost (TLC) model.

There shall be a requirement to produce a complete TLC model for each considered option/s, or provision of a particular aspect of TLC. The TLC model shall be subject to periodic review and adjustment, as the project progresses through the Work Stages. The *Client* owns the TLC model and will specify in each task order what information is required to be provided by the TA.

Production of a complete TLC model shall include the following aspects;

- establishment of a design life,
- establishment of schedules to determine cycles of physical, economic, functional, technological, social, geographical, legal, and aesthetic factors of deterioration and obsolescence, and
- presentation of costs and values for capital expenditure, operational costs, annual planned maintenance, replacement costs, refurbishment, receipts, occupancy costs, residual value, decommissioning and disposal. This may entail liaison with the relevant station operators and

other stakeholders to ascertain costs and values. The model shall be supported by an MDAL capturing assumptions made, along with sources of design life information and cost.

Value Engineering and the processes detailed below are considered an integral part of the TLC decision process.

v. Financial Evaluation and Tender Analysis

The *TA* shall analyse contract and tendered pricing documents and extract cost information for estimating, benchmarking and monitoring purposes. This may involve the elemental (or possibly functional) analysis of buildings, facilities, installations and infrastructures to a format and standard agreed with the Client. The *TA* shall assist in tender 'benchmarking' of tender proposals to enable judgement as to whether the tender represents value for money and is a fair and reasonable charge to the *Client*.

The Cost Consultant shall include an Executive Summary that aligns with a reporting structure that is agreed with BAS. The Cost Consultant shall include, but not be responsible for the accuracy of cost information provided by the *Client*.

Where the procurement of a project is single sourced, the *TA*/Cost Consultant shall assess the procedures and process the Construction Partner has adopted. The assessment will consider;

- market engagement plan,
- sub-contract tendering procedure; reviewing packages; reviewing tender returns and main contractor package recommendations,
- review self-delivered items, including open book accounting for all aspects of the Construction Partner's costs,
- review Construction Partner's package recommendations, and
- agree the Contract Sum / Target Cost

Where a competitive procurement process has not been adopted the *TA* shall analyse the Construction Partner's Commercial Proposal and extract cost information for estimating, benchmarking and monitoring purposes. The *TA* shall issue a report to assist in tender 'benchmarking' of tender proposals to enable judgement as to whether the tender represents value for money and is a fair and reasonable charge to the *Client*

vi. Value Engineering (VE) / Value Management (VM)

The *TA* shall carry out Value Engineering appraisals of designs when requested by the *Client* 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 participate in, and advise on, VM and VE workshops as requested to verify that previously established project objectives are still valid, ensure design proposals are made in accordance with the appropriate value-for-money criteria and to secure value improvements in the chosen design option.

The *TA* shall undertake the preparation of option appraisals and reasoned arguments to demonstrate why particular systems, plant, equipment, materials, etc, shall be selected in preference to others (over the long term) for incorporation into buildings/installations.

vii. Cost Database Development

At present, the *Client* has a limited amount of information from which it is able to benchmark the cost of works due to the unique setting and risks associated with works undertaken in the Antarctic.

As part of the Framework Agreement, the *TA* shall establish a database of costs for various works elements in order that future projects costs can be benchmarked against historical works.

This information shall be held as “Commercial in Confidence” and the *TA* shall not be permitted to pass the information to any third parties without specific approval to do so by the *Client*.

At completion of the Framework Agreement, the *TA* shall be required to return all information to the *Client*.

A4 Contractual and Legal Advice

BAS is currently supported by UKSBS for the administration of contracts, but it is considered that the *TA* may be required to provide additional support for contract procurement and legal advice pertaining to contract issues.

Where such services are required, a separate Task Order shall be issued to the *TA*.

A5 Forensic, Claims and Dispute Resolution

The *TA* shall be required to provide support to BAS for the evaluation of prices submitted for Construction Partner’s works, as detailed under Volume 4.

Dispute resolution for NEC4 Contracts shall be provided through a third party adjudicator (see Framework Agreement Documents) however the *TA* may at times be called upon to provide general advice in relation to dispute resolutions, subject to a Task Order amendment

A6 Specialist Works Support

The scope of work on each project may be instructed in each Task Order to include, but is not limited to, the following;

- Pricing Documents - prepare pricing documents appropriate to the proposed contract strategy for inclusion within the tender documentation, for scrutiny by the *Client*.
- Contract Documentation – this is to be prepared with the presumption that no change shall be authorised after the construction contract has been awarded. Documentation shall be such as to enable the successful implementation of the projects without resort to change instructions.
- Match Up Documentation - check that the content and particulars of the pricing document, Specification and Contract set of drawings are matched and in accordance with the Contract conditions.
- Pre-Tender Estimates (PTE) - prepare a detailed written PTE with updated risk assessment. The PTE shall include a breakdown and spread of expenditure for the Works Services, Direct Contracts, Resource Costs and VAT, with an assurance that all the costs have been identified (e.g. free issue materials).
- Tender Evaluation - prepare a detailed written tender evaluation report including financial reconciliation with the PTE and current risk assessment. Prepare a tender estimate based on the tender recommended for acceptance updating the risk assessment and risk register as appropriate.
- Single Source Evaluation – prepare a detailed written report where a single source procurement route has been adopted. The report shall include a reconciliation against the latest Cost Estimate and current risk assessment. Prepare a report based on the single source commercial submission from the Construction Partner and recommend the next steps including the Contract Sum / Target Cost, if appropriate.
- Milestone Payments - recommend to the *Client* applications for payments submitted by the Contractor during the progress of, and at the completion of the works appropriate to the milestones achieved. Ensure that the amounts claimed are in accordance with the conditions of contract and are fair and reasonable.
- Compensation Event Procedures - provide cost and estimating advice to the *Client* in connection with proposed Compensation Events to aid the *Client* in completing the reports and forms required under the NEC3 procedures within the stipulated timelines.
- Cost Control - review the Construction Partner monthly progress and financial reports and forecasts of expenditure on the project and advise the *Client* accordingly
- Final Account - review project final accounts (produced by the Contractor), for finalisation and agreement. To include all Compensation Events, etc in accordance with the relevant contract terms and conditions.
- Claims - advise the PM on contractual issues and financial matters relating to project claims and/or disputes.
- Post Project Evaluation - participate in any post project evaluation study including 'lessons identified' reviews, providing any necessary cost information and project history.

A7 Financial Management

The *TA* shall produce a cost plan (process), including cost estimates and risk assessments (based on the risk register prepared and maintained in accordance with Volume 2), and report on these in the monthly progress reports.

By way of the progress reports (see Volume 2) the *TA* shall update the information in the cost plan and shall provide, as a minimum, the following;

- financial statements, including an executive summary and forecast of expenditure for the project, with a written commentary,
- comparison of the actual expenditure against identified risks with the relevant risk allowance for such risks as identified in the risk register for the project from time to time (see use of ROMR in Volume 2),
- input to the *Client* owned 1-page monthly cost summary for all current BAS projects under this framework.

Prior to the date of the Construction Partner's Contract, the *TA* shall provide a breakdown of the estimated cost of the works against each of the work stages identified in the Project Programme, and, at tender stage, a reconciliation of this breakdown with the Construction Partner's Milestone Payment Schedule.

Before the payment of the final payment, the *TA* shall carry out a review of actual expenditure against forecast cash-flow and shall provide a reconciliation of the prices or savings in respect of all changes or compensation events under the Construction Partner's Contract with the amounts paid, and due to be paid, to the Construction Partner under the Construction Partner's Contract.