Invitation to Quote

Invitation to Quote (ITQ) on behalf of UK Research and Innovation- STFC

Subject: UKRI 70kw AC Power Supply

Sourcing Reference Number: RE19232

UK Shared Business Services Ltd (UK SBS)
www.uksbs.co.uk

Version 1.0

UKSBS
Shared Business Services

Table of Contents

Section 1 – About UK Shared Business Services

Putting the business into shared services

UK Shared Business Services Ltd (UK SBS) brings a commercial attitude to the public sector; helping our Contracting Authorities improve efficiency, generate savings and modernise.

It is our vision to become the leading service provider for the Contracting Authorities of shared business services in the UK public sector, continuously reducing cost and improving quality of business services for Government and the public sector.

Our broad range of expert services is shared by our Contracting Authorities. This allows Contracting Authorities the freedom to focus resources on core activities; innovating and transforming their own organisations.

Core services include Procurement, Finance, Grants Admissions, Human Resources, Payroll, ISS, and Property Asset Management all underpinned by our Service Delivery and Contact Centre teams.

UK SBS is a people rather than task focused business. It's what makes us different to the traditional transactional shared services centre. What is more, being a not-for-profit organisation owned by the Department for Business, Energy & Industrial Strategy (BEIS), UK SBS' goals are aligned with the public sector and delivering best value for the UK taxpayer.

UK Shared Business Services Ltd changed its name from RCUK Shared Services Centre Ltd in March 2013.

Our Customers

Growing from a foundation of supporting the Research Councils, 2012/13 saw Business, Energy and Industrial Strategy (BEIS) transition their procurement to UK SBS and Crown Commercial Services (CCS – previously Government Procurement Service) agree a Memorandum of Understanding with UK SBS to deliver two major procurement categories (construction and research) across Government.

UK SBS currently manages £700m expenditure for its Contracting Authorities.
Our Contracting Authorities who have access to our services and Contracts are detailed here.

Privacy Statement

At UK Shared Business Services (UK SBS) we recognise and understand that your privacy is extremely important, and we want you to know exactly what kind of information we collect about you and how we use it.

This privacy notice link below details what you can expect from UK SBS when we collect your personal information.

- We will keep your data safe and private.
- We will not sell your data to anyone.
- We will only share your data with those you give us permission to share with and only for legitimate service delivery reasons.

https://www.uksbs.co.uk/use/pages/privacy.aspx

For details on how the Contracting Authority protect and process your personal data please follow the link below:

https://www.ukri.org/privacy-notice/

Section 2 – About the Contracting Authority

UK Research and Innovation

Operating across the whole of the UK and with a combined budget of more than £6 billion, UK Research and Innovation represents the largest reform of the research and innovation funding landscape in the last 50 years.

As an independent non-departmental public body UK Research and Innovation brings together the seven Research Councils (AHRC, BBSRC, EPSRC, ESRC, MRC, NERC, STFC) plus Innovate UK and a new organisation, Research England.

UK Research and Innovation ensures the UK maintains its world-leading position in research and innovation. This is done by creating the best environment for research and innovation to flourish.

For more information, please visit: www.ukri.org

Section 3 - Working with the Contracting Authority.

In this section you will find details of your Procurement contact point and the timescales relating to this opportunity.

Section 3 – Contact details		
3.1.	Contracting Authority Name and address	UK Research and Innovation Polaris House Swindon SN2 1FL
3.2.	Buyer name	Mary Cheston
3.3.	Buyer contact details	Research.tenders@uksbs.co.uk
3.4.	Estimated value of the Opportunity	£70,000.00 excluding VAT
3.5.	Process for the submission of clarifications and Bids	**All correspondence shall be submitted within the Messaging Centre of the e-sourcing. Guidance Notes to support the use of Delta eSourcing is available here.** **Please note submission of a Bid to any email address including the Buyer will result in the Bid not being considered.**

Section 3 - Timescales		
3.6.	Date of Issue of Contract Advert on Contracts Finder	Monday 9th March 2020 Contracts Finder
3.7.	Latest date / time ITQ clarification questions shall be received through Delta eSourcing messaging system	Tuesday 21st April 2020 14.00
3.8.	Latest date / time ITQ clarification answers should be sent to all Bidders by the Buyer through Delta eSourcing Portal	Thursday 23rd April 2020 14.00
3.9.	Latest date and time ITQ Bid shall be submitted through Delta eSourcing	Tuesday 28th April 2020 14.00
3.10.	Anticipated notification date of successful and unsuccessful Bids	Wednesday 13th May 2020
3.11.	Anticipated Contract Award date	Wednesday 13nd May 2020
3.12.	Anticipated Contract Start date	Friday 22nd May 2020
3.13.	Anticipated Contract End date	Monday 30th August 2021
3.14.	Bid Validity Period	60 Days

Section 4 – Specification

1. PREFACE

1.1 The ISIS Main Magnet System

The ISIS Facility, which is sited at the Rutherford Appleton Laboratory (RAL), is the world's most productive pulsed neutron source. Intense bursts of neutrons are produced at 20ms (50 Hz) intervals when a heavy metal target is bombarded by a high-energy (800 MeV) proton beam from a synchrotron accelerator releasing neutrons by the process of spallation.

The production of the high energy protons may be split up into five stages:-

- The generation of H^- ions with energies of 665 keV.
- The acceleration of the H^- ions to 70 MeV using a linear accelerator.
- The stripping of the electrons from the H^- ions to produce protons at 70 MeV.
- The acceleration and bunching of the protons to 800 MeV in the synchrotron ring.
- The delivery of the protons to one of two heavy metal targets.
- The protons are, after extraction from the synchrotron ring, directed along a beamline and delivered to a heavy metal target.

While in the synchrotron the particle beam is steered and focused by means of electromagnets – the "Main Magnets". These are a mix of dipole and quadrupole magnets and are powered in series by a superimposed AC and DC current. The synchrotron main magnets are subject to occasional failures and in this case are taken out to a separate repair and test area, where they may be rebuilt and then tested under power.

1.2 The Test Area

After any repair work has been carried out on a magnet, it is necessary to test it by energising it at full power to verify correct functioning. The test area therefore requires a power feed capable of exactly reproducing the current waveform supplied to the synchrotron magnets while in service.

This specification provides detailed information for the requirement of an AC power supply system, which together with an existing DC Bias power supply will provide the current in the magnet(s) under test.

2. GENERAL

2.1 Circuit Description

This Specification describes the detailed requirements of a complete power supply system required to make up the AC losses in the magnets under test. The system consists of a 70kW highly stabilized AC power supply unit.

The required magnet current has both DC and AC components. The waveform is of the form: $I_{Magnet} = I_{DC} + I_{AC}.\cos\omega t$, this is shown in *Figure 2: Main Magnet Current.* The system is operated at typical values of, I_{DC} = 662A; I_{AC} = 400A; ω = 50Hz. The AC and DC components of this current are supplied by two separate power supplies. The DC power supply already exists and does not form part of this requirement.

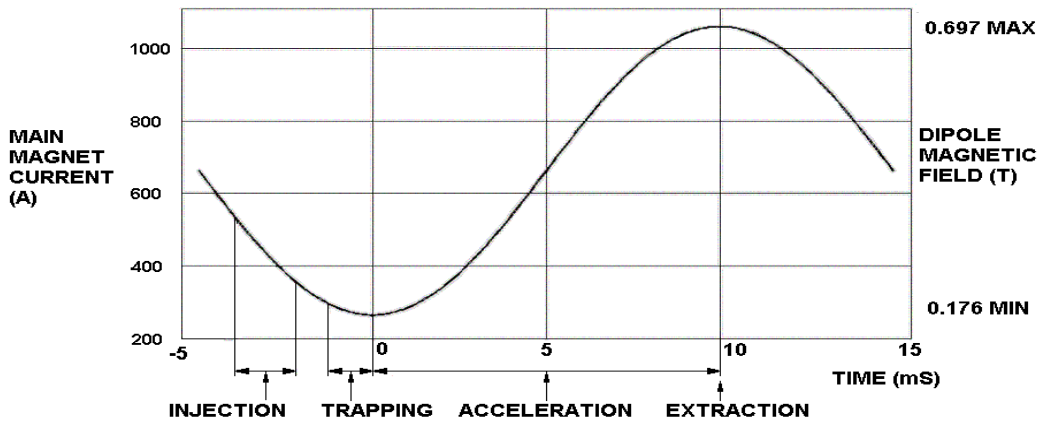

Figure 1: Main Magnet Currents

The superimposed currents are achieved by means of a "Resonant magnet circuit" which is described in the next section.

2.2 Power Requirement

The losses in a single superperiod are of the order 56kW, of these about 48kW are dissipated in the dipole magnet. The 70kW requirement for the power supply has been chosen as it represents 56kW plus a 25% margin. It may be noted that in most instances the load will be a single dipole magnet.

Note that in section 4.3 the product of the maximum current and voltage is more than the specified 70kW. Due to the nature of the load circuit it is possible that either the maximum voltage or current might be reached but not sustained simultaneously.

2.3 The Resonant Magnet Circuit

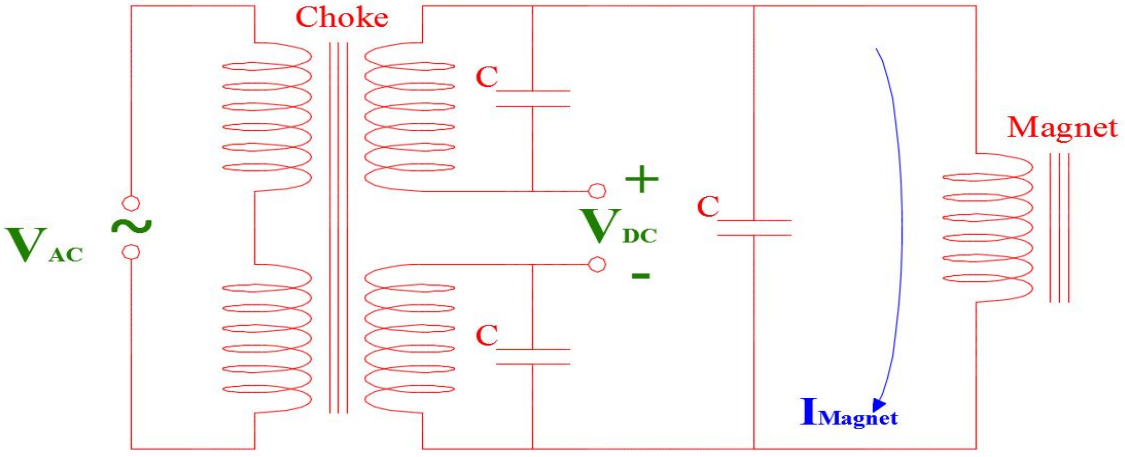

Figure 2: Resonant magnet circuit

The Resonant magnet circuit is a configuration of choke, capacitors and a magnet which allow separate AC and DC power supplies to power a single magnet. A simple version is shown in *Figure 3: Resonant magnet circuit*. The DC goes directly to the magnet via a choke winding whereas the AC power supply excites the choke via an auxiliary, low power winding which sets up a resonance

between the choke and capacitors C1 and C2, this in turn makes C3 and the magnet resonate. Careful control of the AC power supply via a feedback loop allows the magnet AC current to be precisely controlled.

2.4 Frequency

The power supply will output a 50Hz sinusoidal waveform; this will be phase-locked to an external 50Hz, differential TTL square-wave control signal (100mA max). The supplier must take care to ensure that the nominal 50Hz of the incoming mains does not interfere with the output of the power supply.

N.B. the 50Hz control signal to which the output is locked will come from the ISIS timing system and is not related to the frequency or phase of the incoming mains.

2.5 Circuit Start-up procedure

During normal running the power factor of the magnet circuit seen from the AC power supply is usually high 0.95 or better. However, when running up from cold it may be considerably worse; in the region of 0.5 and the power supply must be able to cope with this. If this is the case, and the AC power supply is not able to supply the full operational current then the system is allowed time to warm up on a lower current setting.

It is established procedure to run the circuit up slowly, this is to reduce thermal stresses on the choke and magnet and also helps to reduce inrush currents. The DC power supply is run up in stages until it is at full current, and then the AC is switched on and given a staged run-up. This procedure may take place over several minutes or a few hours if the circuit is starting from cold. The power supplies are required to remain stable at the lower settings during this process. It should be noted that it may take up to 24 hours for the circuit to fully stabilise and during this time the power factor can be variable and relatively poor.

2.6 The Magnet

An ISIS superperiod consists of four magnets connected in series: a dipole, two large quadrupoles and one small quadrupole. In most cases the test area will only be running a single dipole but is possible that any of the superperiod magnets, or a combination of them, might be tested. In each case the capacitor bank would be retuned in order to maintain the 50Hz resonance but the load seen by the power supply will differ, both in current and voltage. The parameters of the different magnets are given below in *Table 1: Magnet parameters*.

Magnet	Inductance	DC Resistance
Dipole	143mH	112mΩ
Large quadrupole	10mH	8 mΩ
Small quadrupole	3mH	3 mΩ
Full Superperiod	166mH	131 mΩ

Table1: Magnet parameters

2.7 The Choke

In order to understand and model the behaviour of the circuit the inductance matrix of the choke is given below: #1 and #2 are the two right-hand windings as shown in *Figure 3: Resonant magnet circuit*. #3 and #4 are the auxiliary winding to which the AC power supply is connected. Although it appears from the schematic that the "choke" is a transformer there is only partial similarity with a transformer. In this device the auxiliary windings are a low-voltage and low-current winding and the main windings (#1 and #2) operate at a higher voltage and current due to the circuit resonance.

winding	#1	#2	#34s
#1	64.055mH	15.275mH	17.223mH
#2	15.275mH	64.055mH	17.223mH
#34s	17.223mH	17.223mH	7.656mH

Windings #3 and #4 are connected in series so they are combined as #34 on the inductance matrix above.

2.7.1 Other parameters:

- Main winding (each) Rdc: 31.87mΩ
- Auxiliary winding Rdc:..... 113.31mΩ
- Auxiliary winding
  - Nominal.....3.47kV
  - Nominal current 30A
  - Maximum allowed current.....40A

The maximum allowed current in the auxiliary winding is 30A so the power supply will be set to an upper limit which will not be exceeded even if this means that the magnet current is below the required value.

In order to minimise the voltages on the auxiliary winding, the power supply will be bipolar so that the maximum voltage output will be approximately 1.7kV$_{rms}$ with respect to earth, connection as in *Figure 3: Resonant magnet circuit*, or half that if connected as per *Figure 4: Resonant magnet circuit separated auxiliaries*. If an output transformer is used, then the high-voltage winding must be centre-tapped and connected to earth.

2.8 Capacitors

The capacitor banks are tuned to give a circuit resonance as close to 50Hz as possible. However, this is done by adding or removing capacitors with the smallest available adjustment being 0.5μF (or about 25kVAr at full operating current), so there is usually some residual reactive power seen by the AC power supply. In order for the circuit to be resonant, in *Figure 2: Main Magnet Currents* the nominal values of capacitance would be C1 = C2 ≈ 127.7μF and C3 ≈ 70.9μF. However, it should be noted that these exact values of capacitance are difficult to achieve in practice. There is also some variation caused by ambient temperature.

2.9 Control

The power supply will be able to operate in either one of two modes as described below:

Mode 1

The power supply is required to maintain a constant set current in the magnets and must use this rather than a direct measurement of its own output current as its main control parameter. There is a high-accuracy DDCT installed in the magnet (HV) circuit from which a 0-10V analogue signal is derived corresponding to the AC current in the magnets. This signal must be used by the power supply to control both level and stability of the magnet current. The exact value of the power supply output voltage is not critical other than for the effect it has on what is going on in the resonant circuit. It is not sufficient simply to stabilise the output of the power supply at a set level.

The target magnet current setting will be given to the power supply either via front panel controls or remotely via an interface such as RS485 or Ethernet (to be confirmed at design review).

Mode 2

The power supply will operate as a voltage source and will maintain a set output voltage according to a demand level supplied by an external control system. This may be sent as a digital command via RS485 or Ethernet, an analogue signal or a combination of the two. The bidder should propose their preferred means of achieving this and it will be discussed further at detailed design review.

If an analogue signal is used for the demand then it will be a level corresponding to an RMS output.

In this mode of operation the power supply must be able to match the demand level with the precision described in section *4.3 AC Output requirements*.

2.9.1 Interfaces to be provided:

- RS485/LAN for general communications
- RS232 for maintenance/diagnostics access
- Protocols will be discussed at design review

2.9.2 DCCT

The DCCT which will be used to measure the main magnet current is not part of this specification, the equipment which is used is the *LEM Current Transducer ITZ 2000-SB FLEX ULTRASTAB*

The datasheet is available via the following web-link:

http://www.lem.com/docs/products/itz_2000-sb_flex_ultrastab.pdf

2.10 Earth Leakage

The HV load circuit has its earth-leakage monitoring inside the DC Bias Power Supply. However, the AC power supply is galvanically isolated from HV circuit by the chokes. The auxiliary side of the chokes which are connected directly to the AC power supply therefore require an earth or neutral

point defined by the centre point of the power supply output circuit. The power supply must be able to detect an earth-fault in this part of its load circuit and disconnect itself before any damage occurs to the power supply either through overvoltage or overcurrent.

The power-supply earth leakage detection must set be to trip at ±30mA of earth-current.

3. POWER SUPPLY SPECIFICATION

3.1 Introduction

The power supply must incorporate the following features:-

- Fed from a nominal AC, 400V_{RMS}, 3-Phase, 50Hz sinusoidal supply.
- It must be based on proven technology, with evidence submitted as part of tender process.
  - Able to maintain stable AC magnet current with 0.005%, 50PPM maximum stability over an 8 hour period.
  - Temperature coefficient max 1ppm/°C
  - Soft start.
  - Galvanic isolation between AC inputs and AC output.
  - Noise rejection.
  - High efficiency.
  - High reliability.
  - Low maintenance and easy access.
  - Means of isolation for the Power Supply from the mains input.
  - Earthed enclosures.
  - All doors and easily removable panels which give access to high-voltage components must be interlocked so that the power supply is tripped off.
  - Electronic monitoring and protection with microprocessor based fault logging for maintenance diagnosis.
  - Facility for remote control and status monitoring.
  - Fully compliant with CE Marking.
  - RoHS compliant (Restriction of the Use of Certain Hazardous Substances) Refer to European Directive 2002/95/EC and subsequent amendments.
  - WEEE compliant (Waste Electronic and Electrical Equipment Regulations 2006). (Refer to Directive 2008/98/EC of the European Parliament and subsequent amendments).

Other relevant BS EN and / or IEC standards must be complied with; the following list is a guide but is not exhaustive:

BS EN 13849-1	Safety-related parts of control systems
BS EN 50160	Voltage characteristics of electricity supplied by public distribution systems
BS EN 55011	Industrial Scientific and Medical Equipment - Electromagnetic disturbance limits and methods of measurement
BS EN 61000	Electromagnetic compatibility (EMC)
IEC 60076-6	Reactors
IEC 60076-11	Power transformers
IEC 60146	Semiconductor converters
IEC 60204-1	Safety of Machines Electrical Equipment of Machines – General Requirements

IEC 60529	Degrees of protection provided by enclosures
IEC 60664-1	Insulation coordination for equipment within low voltage systems
IEC 60950-1	Information Technology Equipment – safety
IEC 61378	Converter transformers
IEC 61558-1	Safety of power transformers, power supplies, reactors and similar products
ISO 3864-2	International standards for safety symbols
ISO 9001	Quality management systems – requirements

In all cases the latest versions and/or amendments of codes apply.

3.2 AC Input requirements

3-Phase, 4-Wire, Sinusoidal form.

Continuous rating input RMS (Ph-Ph) Voltage ..... 400V, +10% / -15%

Operating frequency ..... 50Hz, ±2Hz

THD (including all harmonics up to the order 40) ..... ≤ 8%

Power factor ..... 1 ≥ PF ≥ 0.8 (lagging)

3.3 AC Output requirements

Minimum continuous rating AC output Voltage ..... 3300Vrms (± 1650Vrms)

Resistive connection to ground from mid-point(s) of output ..... Yes (1kΩ)

Minimum continuous rating AC output current 30A*

Minimum continuous performance power rating 70kW

Galvanic isolation from AC input circuit ..... Yes

Output range ..... 0 to rated voltage*

**(To be consistent with Section 4.4 below).*

3.4 Resonant magnet circuit Parameters

Current Stability (any operating set level) 0.005% (50ppm)

Current stability as a function of temperature ..... 1ppm/°C

Stable Current Operational Range ..... 100A – 450A

Current set level range (in steps ≤ 0.05A) ..... 0% to 100%

Ramp-up during start up (soft start) ..... Max 20 amps/second

3.5 Dimensions and Total Mass requirements

Total mass ……..To be advised by the tenderer

Floor loading……1.7 tonnes/metre^2 maximum

Maximum dimensions:

Max Height……2.2 Metres

Max Width……3 Metres

Max Depth……1.8 Metres

Installation……Indoor mounted enclosure

3.6 Construction

Approximately 12.8m^2 (3.2m by 4m) will be made available for the power supply; this allows for operator and maintenance gangways etc. on all four sides.

Installation will be on a mezzanine floor, positioned using a gantry crane. Unloading and placement in the building will be carried out using a fork-lift truck. The power supply must be fitted with appropriate lifting eyes and be capable of being lifted from underneath. In order to make handling practicable it may be necessary to manufacture and deliver the power supply in sections such that the following dimensions are not exceeded.

If more than one section is required then the power supply must be disassembled after factory testing and before shipment.

Maximum Section Width or Depth …… 2.5m

Maximum Section Weight …….. 3 Tonnes

The details of lifting arrangements will be formalised at the design review stage prior to manufacture; assembly may be carried out either by the supplier or if preferred, by STFC (this will be agreed before delivery).

3.7 Environmental conditions

The power supply shall be able to operate under the following environmental conditions without any electrical, mechanical or performance degradation:

Maximum ambient temperature	+40 °C
Maximum daily average temperature	+35 °C
Minimum ambient temperature	0 °C
Storage temperature	-5 °C, + 40 °C
Relative humidity (Average value)	≤ 75%
Relative humidity (Peak value)	≤ 90%, non-condensing
Sealing level for closed areas	IP31 according to IEC 60529
Sealing level for ventilated	IP20 according to IEC 60529
Maximum altitude without de-rating	1000m above sea level

Audible noise..... Less than 75 dBA @ 1 metre & full load and nominal voltage.

3.8 Insulation Test Levels

The AC, 3-Phase input must be **galvanically isolated** from the AC output voltage. The dielectric strength will be in compliance with IEC 60950-1 as a minimum.

- Between AC, 3-Phase, $400V_{rms,}$ circuit and frame:
  $3kV_{rms}$ AC, 50Hz for 60 seconds.
- Between AC output circuit and frame:
  3kV DC, for 60 seconds.

3.9 Clearance and Creepage

The Clearance (Jump) and creepage distances will be present, between all live and exposed components and any earthed panels. These distances will be in compliance with BS EN 60950-1 and/or IEC/TR 60664-2-1, Pollution Degree 3.

3.10 Efficiency

At full load and nominal output voltage an efficiency of 92% or Greater is desirable

3.11 Power Supply Control System

The Control Electronics will be installed properly isolated from the power switches and will be fed by a separate power supply which will be compliant with IEC 60950-1.

The controller must be equipped with an internal CPU and incorporate the following features:

- Interactive interface, to allow local control, monitoring and indication of operational status, measurements and faults;
- Functional keyboard on the front panel for local set-up and configuration (this may be included in a touch-screen interface);
- AC output current and voltage indication on the front panel separate from the interactive interface. Resolution to be ≤ 1.0V for voltage and ≤ 0.1A for current;
- Analogue type AC input current and voltage indication on the front panel separate from the interactive interface. To be selectable between phases with a resolution of ≤ 1.0V for voltage and ≤ 1A for current;
- Remote/Local control mode selectable by switch on the front panel; no remote operation of any kind should be permitted when Local mode is selected (this includes remote reset). Power supply Start, Stop and Reset operation command via separate push-buttons;
- Load current demand and set-level facility via the interactive interface;

The control and protection of the power supply performed by the controller will comprise the following, as a minimum:

- Switching control of the power semiconductor devices.
- Monitoring and protection for the AC inputs.
- Regulation and protection of the AC output.
- Overload and short circuit protection of the AC input and DC output sides.
- 3-Phase input Failure (in the event of loss of one or more phases of the 3-phase input), so that no consequential damage to power supply components or the load occurs.

- Over-temperature and earth leakage protection (within power-supply).
- Monitoring of earth leakage in the load circuit, (see section 4c).
- Fault detection and handling, including logging of first fault.
- Communication handling and control.

On a detection of a fault, the controller will inhibit and lock out the power supply. Fault diagnostic information in terms of which sort of fault is present will be displayed locally and also remotely to the SCADA System. A local or remote manual reset will then be required to re-start the power supply.

A diagnostic facility must be provided to allow rapid and reliable identification of faults within the power supply. This should include making test points available to observe the rectifier bridge output Voltages, a single-ended BNC is the preferred connection.

The minimum operational information to be displayed on the power supply interface is assigned as follows:

- Unit self-test OK;
- Output AC OK (and within the tolerance range);
- Temperature and Over-temperature setting.
- Visual alarms.
- Display of measurements.
- Selected control mode (Local/Remote).
- Communication loss.
- External Interlocks (including which ones are active)

All operational functions available on the local front panel must also be available for remote control, configuration and monitoring by the SCADA System. Also, the following functions related to the power supply and/or to the load shall be available for monitoring from the Plant Control System.

- Emergency Stop/Power Off;
- Power supply Start/Stop operation (as mentioned earlier in this section);
- Load current demand set level;

Additional functions may be advised at a later Stage.

3.11.1 Communications and other interfaces

The following will be included for maintenance purposes and integration into the external SCADA system:

- An RS422/485 port or other equivalent to enable remote control of the power supply by the Plant Control System; the command set shall be made to allow remote control and monitoring.
- An RS232 or USB serial port or other equivalent to enable local connection with a portable PC for which the maintenance software must be provided;
- A Local Area Network connection (Ethernet) for remote monitoring and real time data acquisition; For this option, the Maintenance Software must be provided;
- Communications protocols will be agreed at design review.
- Connectors to be used will be agreed at design review.
- The power supply will have a pair of volt-free contacts which will close when the power supply is ON. These will be used by the external ISIS PLC system to provide an indication that the

power supply is ON and working correctly. The +24V DC feed for these contacts will be sourced from the external ISIS PLC. These should have a normally open and a normally close contact.

3.11.2 External Interlocks

A minimum of 8 hard-wired inputs shall be provided for inclusion into the external interlocks system; the loss of any external interlock will cause the output of the power supply to be immediately switched off and disabled without the involvement of the CPU or other programmed devices. Other considerations are:

- The external interlocks connector within the power supply must use screw-type connectors suitable for terminating 16/0.2 wires. "Screwless" quick-connect type connectors must not be used.
- There will be two terminals for each external interlock; one will provide an extra-low voltage, preferably 24Vdc, which will be returned by the external control system to the second terminal. The external controller will have volt-free contacts which are closed when the interlock is good.

The external interlocks will be labelled:

- PLC Interlock 1
- PLC Interlock 2
- External Interlock 1
- External Interlock 2
- PPS1
- PPS2
- Magnet Emergency Off Button 1
- Magnet Emergency Off Button 2

External interlocks 1-4 (PLC and External) provide machine protection. These will comply with BS EN 13849-1 to at least Category 1.

External interlocks 5-8 (PPS and Magnet Emergency Off) provide personnel protection. This will comply with BS EN 13849-1 to at least Category 3.

3.12 Emergency Stop

An Emergency stop/Power off push-button will be provided with regard to the following:

- It shall be hard-wired and not dependent on the functioning of the control system.
- It shall be operative irrespective of the control mode selected.
- It shall remove power from and isolate the output of the power supply.
- Control system functionality, including identification of power supply status and external communications should be maintained during and after the pressing of the emergency stop.
- It must be placed in a prominent position close to the control panel but located such that accidental activation is prevented.

3.13 Software and Protocols

Maintenance and commissioning etc.: the power supply must be accessible via a service interface e.g. RS232 connected to a laptop computer for the purposes of adjustment, maintenance and fault

diagnosis, any software required to carry out this function must be made available and form part of the overall package supplied.

Control: the power supply will be integrated into an existing control and monitoring system which is based on LabVIEW; any necessary drivers should also be included in the overall package supplied.

The required interfaces are detailed in section 4.12.1. If drivers or proprietary protocols are required these must be made available during the design review stage so that they can be integrated into ISIS control systems before on-site commissioning starts.

4. COOLING

It is preferred that the power supply will be air-cooled, either natural or forced. However, if the manufacturer cannot meet this, then a proposal that relies on water-cooling will also be considered. Cooling methods must be addressed in the tender documentation.

If water-cooling is chosen then *Electrical components which are at risk of being exposed to water from leakage must be well protected.*

4.1 Air cooling

Where air cooling is used, the following applies:

- Bulk ambient air temperature 35 °C
- Max allowable power to be dissipated by air 10 kW
- Bulk air velocity for natural convection 0 m s^{-1} (Still Air)

4.2 Water Cooling

If water is chosen then the power supply will be connected to the STFC water-cooling circuit. This will comprise demineralised water.

- The following must be considered when using demineralised water:-
  Copper Migration Rate = 853.92 x Current Leakage (grams/month).
- The locations, number and fitting types of the inlets and outlets of the power supply cooling water system are to be agreed between the supplier and STFC at the design review stage.
- The cooling water distribution to the power supply sub-systems will be comprised of quick-fit and self-sealing connections.
- Stainless Steel piping shall be used with minimum connections, to enhance reliability.
- Flexible crimped hoses will only be allowed for the quick-fit connections.
- The water flow of the power supply and the associated sub-sections shall be monitored by flow meters with a front-panel display showing flow-rate in litres/minute. These shall be connected to the internal interlocks system so that the power-supply will be tripped off should the flow-rate fall below a specified level. The specific type of flow meter used will be agreed between the supplier and STFC at the design review stage.
- Inlet and outlet water temperature's probes to be fitted and their readings displayed.

- A full list of materials in the water system must be supplied; this will include welding materials and joints.
- Maximum allowable pressure drop at maximum flow..... 3 bar
- Power supply test pressure (1 hour)..... 16 bar

4.3 Main features of STFC water-cooling systems:-

Demineralised water conductivity..... < 10µS/cm

Maximum operating pressure..... 8 bar

Minimum available pressure drop..... 3 bar

Maximum inlet temperature..... 25°C

Maximum outlet temperature..... 40°C

Delta T..... 10-15°C

Available water flow for the power supply..... Maximum 100 Litres per Minute

4.4 Fans

When forced air cooling is used all fans will be supplied by the power supply. The tenderer must include the following in their submission:

- Location of the inlets and outlets of forced air.
- Cooling fan redundancy.

4.5 Fan Maintenance Requirements and lubrication details

- Sealed ball bearing fans with a minimum design life expectancy of 20000 hours.

5. MECHANICAL DETAILS

- The power supply shall be modular for ease of handling and installation. It is preferred that the modules shall be based on standard 19" rack enclosures (or multiples thereof).
- The modules will be fitted indoors. The mounting arrangements to be agreed between STFC and the supplier(s).
- The supplier shall provide the modules with means for lifting and carrying in compliance with the relevant safety code, assuming that the equipment will be lifted by an overhead crane and/or a forklift when applicable. The supplier shall also provide directions and detailed drawings indicating all lifting points. (See notes in section 3e).
- Air cushions are being considered as a means of moving the equipment within the building which will impinge on the design of the undersides of the modules; this will be discussed during the design reviews.
- The equipment case must be painted on the inside and outside. If stainless steel is used, then only outside paint is required. The colour shall be agreed with STFC
- All fixings are to be metric.
- Warning labels on all external covers that conceals mains or higher voltage terminals. The labels will be in compliance to ISO 3864-2 and comprise the following:-

- Triangular warning (Flash Sign) labels;
- Voltage warning labels (indicating nominal voltage values);
- Warning labels in International English. The warning will indicate the safe waiting time after switching off before attempting to access internal components.

- Identification labels in International English - Labels in IP20 enclosures are printed black on white. These are fixed in place using sealed stainless steel rivets. Labels mounted in IP31 enclosures should be either riveted or screwed and printed black on white.
- Rating plates will be mounted externally. These will exhibit details of the following:
  - serial number
  - equipment type number
  - date of manufacture
  - Input power, voltage, current, number of phases and frequency
  - Output power, voltage and Current
  - Cooling water requirements
  - weight
- Semiconductors, power capacitors and electronic control measurement panels to be situated in a closed, ventilated compartment to IP31.
- As a preference copper busbars shall be used and insulated as necessary.
- Entries for the external input and output power conductors to be agreed between STFC and the supplier.
- Mechanical interlocks – refer to Section 9a).

MATERIALS

5.1 Fire and Smoke

- The equipment should be designed to comply with the requirements of IEC 60204.
- A smoke audit should be provided indicating the likely products of combustion in the event of a fire.
- All materials should comply with WEEE (Waste Electronic and Electrical Equipment Regulations 2006); refer to Directive 2008/98/EC of the European Parliament.
- All materials used should comply with RoHS (Restriction of the Use of Certain Hazardous Substances); refer to European Directive 2002/95/EC and subsequent amendments.

5.2 Wound Components

All major wound components shall be insulated to class 200, and vacuum impregnated. For thermal design purposes all wound components will be assumed to be class 150. The manufacturer shall provide calculations to demonstrate that they have included the full effect of harmonic currents in their thermal design. Temperature monitoring devices should be incorporated into all major wound components and should form part of the internal interlocks of the power supply.

5.3 Capacitors

Any Electrolytic capacitors used in the design should be identified and a maintenance regime defined.

6. ISOLATORS AND SWITCHES

The following switches and isolators shall be fitted to the front of the power supply:

- Mains input isolator – this shall be lockable using padlocks or safety-hasps etc.
- Output isolator – this is to be fitted with an agreed Castell lock (section 10a).

7. SAFETY

The power supply must comply with IEC 61558-1 and IEC 60204. Safety is of paramount importance at all levels and a rigorous demonstration of safety is required by STFC, including risk assessment. The safety demonstration shall include but not be limited to the following:-

- The identification and resolution of hazards inherent in the design of the power supply.
- Interference with other plant systems / networks.
- Software - It may be the case that some of the failure modes involve software.

7.1 Castell system (mechanical interlocks)

The ISIS main magnet power supplies are included in a Castell™ system which ensures that they are in a safe condition before access can be gained to any downstream area. This may cover isolator switches and "earth-dump" systems if fitted. The power supply and filter must be designed in such a way that Castell locks are easily fitted to any control which has a bearing on personnel safety. The details of the locks and mounting will be discussed in more detail during the design review.

7.2 Power supply enclosures

All doors and easily removable panels that give access to hazardous voltages shall incorporate interlock switches such that the power supply is tripped off when they are open.

8. TESTING

The completed power supply shall be tested at both the manufacturer's works and after installation at STFC Rutherford Appleton Laboratory. The satisfactory completion of both of these tests shall be considered to be Contractual Milestones.

Payment Milestones-

Milestone 1 (30%) - Sign off of detailed design by STFC

Milestone 2 (40%) - Payment for delivery of major components at supplier site which must be marked as property of UKRI (evidence to be provided such as delivery notes, invoices, photos, etc.)

Milestone 3 (30%) - Following delivery, acceptance and training by supplier

8.1 Factory Testing

The completed power supply and filter should undergo a rigorous factory testing program before acceptance by STFC, and the points listed below should be included in the test program. Any full test programme will be reviewed and agreed during the design reviews and will be agreed prior to manufacture. *The manufacturer must ensure that the electrical supply to the test laboratory is adequate for these tests, 70kw.*

If the power supply has been manufactured in complete sub-assemblies, these tests shall apply to each sub-assembly.

- Short Circuit Test (Running conditions will be discussed during design review).
- Full Voltage Test into no connected load.
- Full current test into reduced load
- Trip off supply while running at full power.

8.2 Site Acceptance Testing

After the installation at STFC Rutherford Laboratory has been completed to the satisfaction of all parties, the Power Supply will be tested in two stages.

- The first stage will be with the power supply isolated from the resonant magnet circuit. The tests will prove that the installation has been satisfactorily completed. The Test Programme will be agreed at a Design Review before manufacture begins, but they shall include a Short Circuit Test at full current and an Open Circuit Test at Full Voltage. Details will be discussed with the winning bidder.

The second stage will be with the Dipole Test Circuit properly connected. The Test Program will be agreed after the factory tests have been completed but will include a 24 hour test at the nominal working current with full magnet AC excitation. These tests should demonstrate the design values of the power supply stability.

- Acceptance test dates will be scheduled to fit with the ISIS Operational and shut down schedule. Acceptable dates for these tests will be provided by STFC.

The details of the tests and schedule will be discussed more fully during the design review.

8.3 EMC

The equipment will be designed and tested to meet, as a minimum, the following or equivalent:-

- Radiated Emissions (BS EN 55011)
- Conducted Emissions (BS EN 55011)
- Electrostatic Discharge (IEC 61000-4-2)
- Radiated RF Immunity (IEC 61000-4-3)
- Fast transient burst (IEC 61000-4-4)
- Surge Immunity (IEC 61000-4-5)
- Conducted RF immunity (IEC 61000-4-6)

9. DESIGN REVIEWS

The supplier should carry out design reviews for the following.

- Supplier technical specification (in response to this document);
- This must include details on the proposed design topology for the power supply with calculations demonstrating compliance with the specification.
- Simulated waveforms.
- Thermal calculations.
- Interface drawings (Mechanical and Electrical) including dimensions.
- Power and control circuit schematic.
- Equipment layout / detail assembly (including dimensions).
- Routine test specification.

- Type test specification.
- Documentation (please see Section 16).
- Software for control and maintenance (see section 4m).

Following a design review, the project/design shall not proceed until that stage of the design reviews is approved by STFC and closed. The supplier shall provide STFC with all documentation and drawings related to any design review 2 weeks prior to that design review.

The approval of the detailed design by STFC in any design review shall not relieve the supplier of any responsibility for meeting the final specifications of the contract.

10. PROJECT PLAN, PROJECT REVIEWS AND CONTACTS

The supplier shall prepare a project plan for evaluation by STFC. This should be in International English and show the following as a minimum:

- Design reviews schedule.
- Routine, Type test schedule (for witness).
- Likely achievable delivery date which shall be within 18 months from placement of order.

Regular progress review meetings shall be held between the supplier and STFC at all stages in the contract. STFC will nominate a Project Engineer who will act on its behalf and be responsible for all official communications with the supplier.

The supplier shall name a Project Manager and Lead Engineer who shall direct the design, manufacture, testing and delivery of the power supply.

11. PRODUCT SUPPORT

The supplier is to allow engineering time to support during commissioning, on site at STFC.

12. TRAINING

The supplier is to provide comprehensive training with respect to the power and control circuits, operation, configuration and maintenance of the power supply. The supplier should prepare a training schedule plan for evaluation by STFC. As stated in the milestone payments.

13. DOCUMENTATION AND DRAWINGS

All documentation and drawings shall be provided as electronic copies in International English. For hard copies, the documentation shall be in A4 or in specific format requested by STFC. All drawings shall be in “*.dwg” or .pdf format.

All documentation and drawings shall become the property of STFC and will comprise the following:

- Power supply technical specification.
- Design calculations such as thermal, mechanical and electrical design.
- Routine test specification.
- Routine, Type test report.
- EMC report.
- Mechanical and Electrical interface drawings.

- Power and control schematics.
- Control block diagram.
- Power and control wiring drawings.
- Detail assembly and items list of the power supply.
- Operation manual, comprising at least:
- Installation / Wiring guidelines.
- Configuration and set-up procedures.
- Interface display and control description.
- Fault management description.
- Fault response description (i.e. the operator's response and behaviour to a fault).
- Corrective maintenance and preventive maintenance document (Maintenance manual).

This to include:-

  - Wiring diagrams (Power and Control) and the 3D model of the power supply detail assembly.
  - Circuit diagrams of all control modules and circuit boards showing all component values and device types.
  - Circuit operational descriptions with drawings / sketches etc. as necessary to allow maintenance technicians / engineers to rapidly understand the function of circuits to component level.

- Spare parts list and recommended quantities for a minimum 20 year operational life.
- Special tools list (if required).
- Smoke audit.

NB, Intellectual Property; IP rights will remain with the manufacturer and will not be disclosed by STFC to 3rd parties.

14. QUALITY ASSURANCE SYSTEM

The manufacturer shall employ a quality assurance system to ISO-9001 to ensure the quality of the final product and the traceability of the individual components and materials. All documentation and markings shall be in International English.

15. PACKAGING, SHIPPING AND DELIVERY

All packaging, insurance and shipping costs to STFC site shall be made entirely at the expense of the supplier / manufacturer. The latter shall ensure proper protection of the power supply against any damage from severe environment conditions, handling and transportation to STFC site. The total weight of each package shall be clearly displayed on the outside.

Delivery of the power supply and other items to STFC site shall be to an agreed schedule. The delivery of the power supply shall be made during STFC working hours and following a minimum of 2 weeks prior notice.

All deliveries must occur during normal working delivery hours at STFC; 9am to 4pm. If delivery notice is not provided or is attempted outside the above hours, STFC reserves the right to refuse delivery. Any increase in delivery charges due to a refused delivery will be incurred by the manufacturer.

16. WARRANTIES

The supplier shall provide a warranty period of twenty-four months minimum, covering the power supply and components, for all faults related to defective parts or manufacturing process. This period shall start after the commencement of satisfactory commissioning.

17. SPARES

The manufacturer during the acceptance phase of the project must provide STFC with a detailed list of suggested spares. Once agreed, these may be purchased by STFC as part of the contract.

18. TENDER RESPONSE

The following shall be included in the tender documentation:

- Price
- Proposed delivery period from acceptance of tender
- General description of the power supply Statement of compliance with the whole specification indicating which parts (if any) that the bidder cannot exactly comply with. This should address this specification point by point so that there is no ambiguity over compliance.
- Outline drawings
    - Mechanical layout
    - dimensions
    - Estimated weight
- Topology
- Space requirements
- Cooling requirements
- Electrical supply requirements
- Outline schedule including milestones
    - Suggested design reviews
- Design calculations
    - Thermal
    - Wound components
    - Efficiency
- Available test facilities at manufacturer's premises and ability to comply with section 11a).
- Previous relevant power supply experience.
- Previous relevant accelerator experience.

19. APPENDICES

Appendix A ISIS Main Energy Storage Chokes

The following data is copied from a choke rating plate:

Figure A2: Choke Connections

Rated 50Hz voltage main windings.....16kV

Rated 50Hz voltage to ground.....8kV

Insulation level	28kV/50Hz/1min
Rated inductance	160mH
Rated DC current	662A
AC current level superimposed	318.2A
Totalled rms current	734.5
S/C reactance	1005mΩ
Winding ratio main: auxiliary	4.5 : 1
Rated 50Hz voltage auxiliary windings	1778V
Auxiliary winding rms current each	42A
S/C reactance	12.41mΩ
Standards	IEC 60289
Number of phases	one
Total losses	55.7kW
Decrease of incremental inductance	≤4%
Equivalent power rating	14.5MVA
Total mass	26950kg

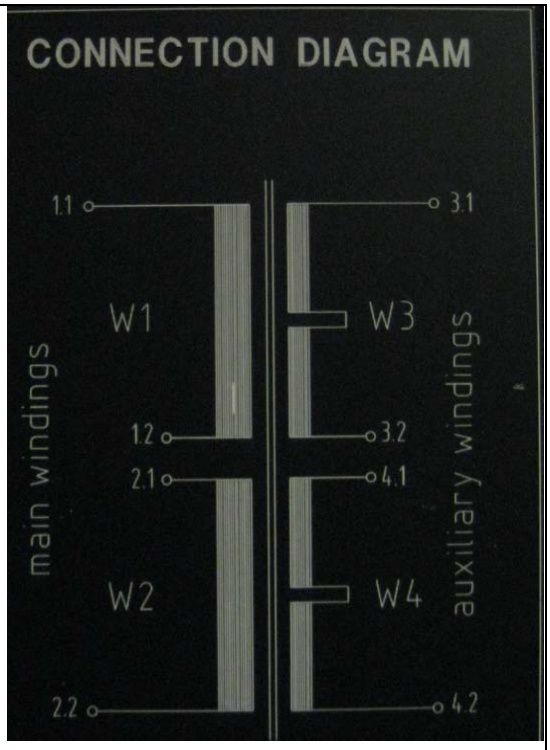

Figure A3: ISIS New Choke Room with Chokes in Situ

Terms and Conditions

Bidders are to note that any requested modifications to the Contracting Authority Terms and Conditions on the grounds of statutory and legal matters only, shall be raised as a formal clarification during the permitted clarification period.

Section 5 – Evaluation model

The evaluation model below shall be used for this ITQ, which will be determined to two decimal places.

Where a question is 'for information only' it will not be scored.

The evaluation team may comprise staff from UK SBS and the Contracting Authority and any specific external stakeholders the Contracting Authority deems required.

The evaluation and if required team may comprise staff from UK SBS and the Contracting Authority and any specific external stakeholders the Contracting Authority deems required. After evaluation and if required moderation scores will be finalised by performing a calculation to identify (at question level) the mean average of all evaluators (Example – a question is scored by three evaluators and judged as scoring 5, 5 and 6. These scores will be added together and divided by the number of evaluators to produce the final score of 5.33 (5+5+6 =16÷3 = 5.33)

Pass / Fail criteria		
Questionnaire	**Q No.**	**Question subject**
Commercial	SEL1.2	Employment breaches/ Equality
Commercial	SEL1.3	Compliance to Section 54 of the Modern Slavery Act
Commercial	FOI1.1	Freedom of Information
Commercial	FOI1.2	Freedom of Information Act Exemptions
Commercial	AW1.1	Form of Bid
Commercial	AW1.3	Certificate of Bona Fide Bid
Commercial	AW3.1	Validation check
Commercial	AW4.1	Compliance to the Contract Terms
Commercial	AW4.2	Changes to the Contract Terms
Quality	AW6.1	Compliance to the Mandatory elements of Specification
Quality	AW6.2	Variable Bids
-	-	Invitation to Quote – received on time within e-sourcing tool
In the event of a Bidder failing to meet the requirements of a Mandatory pass / fail criteria, the Contracting Authority reserves the right to disqualify the Bidder and not consider evaluation of any of the Award stage scoring methodology or Mandatory pass / fail criteria.		

Scoring criteria

Evaluation Justification Statement

In consideration of this particular requirement the Contracting Authority has decided to evaluate Potential Providers by adopting the weightings/scoring mechanism detailed within this ITQ. The Contracting Authority considers these weightings to be in line with existing best practice for a requirement of this type.

Questionnaire	Q No.	Question subject	Maximum Marks
Price	AW5.2	Price	30%
Quality	PROJ2.2	Cooling	10%
Quality	PROJ2.5	Output Voltage Efficiency	40%
Quality	PROJ2.6	Simulations	20%

Evaluation of criteria

Non-Price elements

Each question will be judged on a score from 0 to 100, which shall be subjected to a multiplier to reflect the percentage of the evaluation criteria allocated to that question.

Where an evaluation criterion is worth 20% then the 0-100 score achieved will be multiplied by 20**%**.
Example if a Bidder scores 60 from the available 100 points this will equate to 12% by using the following calculation:
Score = {weighting percentage} x {bidder's score} = 20% x 60 = 12

The same logic will be applied to groups of questions which equate to a single evaluation criterion.

The 0-100 score shall be based on (unless otherwise stated within the question):

0	The Question is not answered, or the response is completely unacceptable.
10	Extremely poor response – they have completely missed the point of the question.
20	Very poor response and not wholly acceptable. Requires major revision to the response to make it acceptable. Only partially answers the requirement, with major deficiencies and little relevant detail proposed.
40	Poor response only partially satisfying the selection question requirements with deficiencies apparent. Some useful evidence provided but response falls well short of expectations. Low probability of being a capable supplier.
60	Response is acceptable but remains basic and could have been expanded upon. Response is sufficient but does not inspire.
80	Good response which describes their capabilities in detail which provides high levels of assurance consistent with a quality provider. The response includes a full description of techniques and measurements currently employed.
100	Response is exceptional and clearly demonstrates they are capable of meeting the requirement. No significant weaknesses noted. The response is compelling in its description of techniques and measurements currently employed, providing full assurance consistent with a quality provider.

All questions will be scored based on the above mechanism. Please be aware that there may be multiple evaluators. If so, their individual scores will be averaged (mean) to determine your final score as follows:

Example
Evaluator 1 scored your bid as 60
Evaluator 2 scored your bid as 60
Evaluator 3 scored your bid as 40
Evaluator 4 scored your bid as 40
Your final score will (60+60+40+40) ÷ 4 = 50

Price elements will be judged on the following criteria.

The lowest price for a response which meets the pass criteria shall score 100.
All other bids shall be scored on a pro rata basis in relation to the lowest price. The score is then subject to a multiplier to reflect the percentage value of the price criterion.

For example - Bid 1 £100,000 scores 100.
Bid 2 £120,000 differential of £20,000 or 20% remove 20% from price scores 80
Bid 3 £150,000 differential £50,000 remove 50% from price scores 50.
Bid 4 £175,000 differential £75,000 remove 75% from price scores 25.
Bid 5 £200,000 differential £100,000 remove 100% from price scores 0.
Bid 6 £300,000 differential £200,000 remove 100% from price scores 0.
Where the scoring criterion is worth 50% then the 0-100 score achieved will be multiplied by 50.

In the example if a supplier scores 80 from the available 100 points this will equate to 40% by using the following calculation: Score/Total Points multiplied by 50 (80/100 x 50 = 40)

The lowest score possible is 0 even if the price submitted is more than 100% greater than the lowest price.

Section 6 – Evaluation questionnaire

Bidders should note that the evaluation questionnaire is located within the **e-sourcing questionnaire.**

Guidance on completion of the questionnaire is available at http://www.uksbs.co.uk/services/procure/Pages/supplier.aspx

PLEASE NOTE THE QUESTIONS ARE NOT NUMBERED SEQUENTIALLY

Section 7 – General Information

What makes a good bid – some simple do's

DO:

7.1 Do comply with Procurement document instructions. Failure to do so may lead to disqualification.

7.2 Do provide the Bid on time, and in the required format. Remember that the date/time given for a response is the last date that it can be accepted; we are legally bound to disqualify late submissions. Responses received after the date indicated in the ITQ shall not be considered by the Contracting Authority, unless the Bidder can justify that the reason for the delay, is solely attributable to the Contracting Authority

7.3 Do ensure you have read all the training materials to utilise e-sourcing tool prior to responding to this Bid. If you send your Bid by email or post it will be rejected.

7.4 Do use Microsoft Word, PowerPoint Excel 97-03 or compatible formats, or PDF unless agreed in writing by the Buyer. If you use another file format without our written permission, we may reject your Bid.

7.5 Do ensure you utilise the Delta eSourcing messaging system to raise any clarifications to our ITQ. You should note that we will release the answer to the question to all Bidders and where we suspect the question contains confidential information, we may modify the content of the question to protect the anonymity of the Bidder or their proposed solution

7.6 Do answer the question, it is not enough simply to cross-reference to a 'policy', web page or another part of your Bid, the evaluation team have limited time to assess bids and if they can't find the answer, they can't score it.

7.7 Do consider who the Contracting Authority is and what they want – a generic answer does not necessarily meet every Contracting Authority's needs.

7.8 Do reference your documents correctly, specifically where supporting documentation is requested e.g. referencing the question/s they apply to.

7.9 Do provide clear, concise and ideally generic contact details; telephone numbers, e-mails and fax details.

7.10 Do complete all questions in the questionnaire or we may reject your Bid.

7.11 Do ensure that the Response and any documents accompanying it are in the English Language, the Contracting Authority reserve the right to disqualify any full or part responses that are not in English.

7.12 Do check and recheck your Bid before dispatch.

What makes a good bid – some simple do not's

DO NOT

7.13 Do not cut and paste from a previous document and forget to change the previous details such as the previous buyer's name.

7.14 Do not attach 'glossy' brochures that have not been requested, they will not be read unless we have asked for them. Only send what has been requested and only send supplementary information if we have offered the opportunity so to do.

7.15 Do not share the Procurement documents, they are confidential and should not be shared with anyone without the Buyers written permission.

7.16 Do not seek to influence the procurement process by requesting meetings or contacting UK SBS or the Contracting Authority to discuss your Bid. If your Bid requires clarification the Buyer will contact you. All information secured outside of formal Buyer communications shall have no Legal standing or worth and should not be relied upon.

7.17 Do not contact any UK SBS staff or the Contracting Authority staff without the Buyers written permission or we may reject your Bid.

7.18 Do not collude to fix or adjust the price or withdraw your Bid with another Party as we will reject your Bid.

7.19 Do not offer UK SBS or the Contracting Authority staff any inducement or we will reject your Bid.

7.20 Do not seek changes to the Bid after responses have been submitted and the deadline for Bids to be submitted has passed.

7.21 Do not cross reference answers to external websites or other parts of your Bid, the cross references and website links will not be considered.

7.22 Do not exceed word counts, the additional words will not be considered.

7.23 Do not make your Bid conditional on acceptance of your own Terms of Contract, as your Bid will be rejected.

7.24 Do not unless explicitly requested by the Contracting Authority either in the procurement documents or via a formal clarification from the Contracting Authority send your response by any way other than via e-sourcing tool. Responses received by any other method than requested will not be considered for the opportunity.

Some additional guidance notes

7.25 All enquiries with respect to access to the e-sourcing tool and problems with functionality within the tool must be submitted to Delta eSourcing, Telephone 0845 270 7050

7.26 Bidders will be specifically advised where attachments are permissible to support a question response within the e-sourcing tool. Where they are not permissible any attachments submitted will not be considered as part of the evaluation process.

7.27 Question numbering is not sequential and all questions which require submission are included in the Section 6 Evaluation Questionnaire.

7.28 Any Contract offered may not guarantee any volume of work or any exclusivity of supply.

7.29 We do not guarantee to award any Contract as a result of this procurement

7.30 All documents issued or received in relation to this procurement shall be the property of the Contracting Authority / UKSBS.

7.31 We can amend any part of the procurement documents at any time prior to the latest date / time Bids shall be submitted through the Delta eSourcing Portal.

7.32 If you are a Consortium you must provide details of the Consortiums structure.

7.33 Bidders will be expected to comply with the Freedom of Information Act 2000, or your Bid will be rejected.

7.34 Bidders should note the Government's transparency agenda requires your Bid and any Contract entered into to be published on a designated, publicly searchable web site. By submitting a response to this ITQ Bidders are agreeing that their Bid and Contract may be made public

7.35 Your bid will be valid for 60 days or your Bid will be rejected.

7.36 Bidders may only amend the contract terms during the clarification period only, only if you can demonstrate there is a legal or statutory reason why you cannot accept them. If you request changes to the Contract terms without such grounds and the Contracting Authority fail to accept your legal or statutory reason is reasonably justified, we may reject your Bid.

7.37 We will let you know the outcome of your Bid evaluation and where requested will provide a written debrief of the relative strengths and weaknesses of your Bid.

7.38 If you fail mandatory pass / fail criteria we will reject your Bid.

7.39 Bidders are required to use IE8, IE9, Chrome or Firefox in order to access the functionality of the Delta eSourcing Portal.

7.40 Bidders should note that if they are successful with their proposal the Contracting Authority reserves the right to ask additional compliancy checks prior to the award of

any Contract. In the event of a Bidder failing to meet one of the compliancy checks the Contracting Authority may decline to proceed with the award of the Contract to the successful Bidder.

7.41 All timescales are set using a 24-hour clock and are based on British Summer Time or Greenwich Mean Time, depending on which applies at the point when Date and Time Bids shall be submitted through the Delta eSourcing Portal.

7.42 All Central Government Departments and their Executive Agencies and Non-Departmental Public Bodies are subject to control and reporting within Government. In particular, they report to the Cabinet Office and HM Treasury for all expenditure. Further, the Cabinet Office has a cross-Government role delivering overall Government policy on public procurement - including ensuring value for money and related aspects of good procurement practice.

For these purposes, the Contracting Authority may disclose within Government any of the Bidders documentation/information (including any that the Bidder considers to be confidential and/or commercially sensitive such as specific bid information) submitted by the Bidder to the Contracting Authority during this Procurement. The information will not be disclosed outside Government. Bidders taking part in this ITQ consent to these terms as part of the competition process.

7.43 The Government introduced its new Government Security Classifications (GSC) classification scheme on the 2nd April 2014 to replace the current Government Protective Marking System (GPMS). A key aspect of this is the reduction in the number of security classifications used. All Bidders are encouraged to make themselves aware of the changes and identify any potential impacts in their Bid, as the protective marking and applicable protection of any material passed to, or generated by, you during the procurement process or pursuant to any Contract awarded to you as a result of this tender process will be subject to the new GSC. The link below to the Gov.uk website provides information on the new GSC:

https://www.gov.uk/government/publications/government-security-classifications

The Contracting Authority reserves the right to amend any security related term or condition of the draft contract accompanying this ITQ to reflect any changes introduced by the GSC. In particular where this ITQ is accompanied by any instructions on safeguarding classified information (e.g. a Security Aspects Letter) as a result of any changes stemming from the new GSC, whether in respect of the applicable protective marking scheme, specific protective markings given, the aspects to which any protective marking applies or otherwise. This may relate to the instructions on safeguarding classified information (e.g. a Security Aspects Letter) as they apply to the procurement as they apply to the procurement process and/or any contracts awarded to you as a result of the procurement process.

USEFUL INFORMATION LINKS

- Contracts Finder
- Equalities Act introduction
- Bribery Act introduction
- Freedom of information Act