

Statement of Requirement

The Contractor shall be responsible for the following activities:

1. FACILITY MANAGEMENT AND WORK CO-ORDINATION

Interface management and co-ordination with the Authority's Project Manager including any necessary liaison with Ministry Contractors and Sub-Contractors.

Day to day liaison with the Water Authority on all matters relating to activities at the Open-Water Test Facility (OWTF) which may have an implication for water quality and/or contaminants.

The provision, including the negotiation of any leases, for the use of accredited NPL facilities and any additional facilities required under the Contract for 240 facility days per Contract year. The Authority will have the ability to carry over up to 20 facility days to the next Contract year if not used. In doing so, the Contractor shall be responsible for compliance with the terms of any lease or any regulations imposed by the relevant authorities, including Health and Safety and Environmental Agencies, for the work to be undertaken by the Contractor and for the attendance of the Authority and its authorised representatives at those facilities.

2. PLANNING AND PROGRESS REPORTING

Management and Planning of all calibration operations to ensure the Authority's priorities are achieved.

Maintenance of a Usage Log of all Authority related activities and the issue of an annual report detailing the status of jobs in progress to the Authority's Project Manager. This is to be made available prior to the annual progress meeting.

3. DATA RECORDING AND MANAGEMENT

Collation, recording and archiving of all results generated from Authority calibration and testing activities.

4. DOCUMENT SECURITY

Provide a means of safeguarding all Authority documentation during the silent hours, which are defined as hours when the facility would otherwise be unattended.

5. TEST AND CALIBRATION

Provide the Authority and its authorised agents with services for the calibration and testing of acoustic equipment, and access to the specified facilities. Sufficient facility days should be available to ensure that the Authority's requirements within any contractual year are met. A facility day is defined as a period of 8 hours for preparation work, calibration/testing, assessment and production of formal reports/certificates. Although working practices are to be flexible and responsive to requirement time scales, an average working day should not exceed 8 hours.

6. HEALTH AND SAFETY

The Contractor shall ensure that:

All statutory Health and Safety regulations, or any other regulations or by-law of the Local Authority, are observed by the Contractor's personnel employed at the facility including any additional specific regulations relating to personnel operating on a floating platform or other vessels which include the stipulation that staff should not operate alone on the OWTF.

7. TEST AND CALIBRATION SERVICES AND FACILITIES TO BE PROVIDED BY THE CONTRACTOR

Equipment and reference transducers

All measurement equipment, instrumentation and reference transducers associated with each of the facilities detailed below will be maintained as fit for purpose and, where required, in calibration.

Calibrations will be traceable to national standards and performed under an accredited service where available and best suited to the facility requirements.

Open Water Test Facility (OWTF)

Open-water reservoir with up to 20 m water depth with water expanse extending to at least 1 km by 1 km.

UKAS accreditation to ISO17025 for acoustic transmit and receive sensitivity calibrations over the frequency range 250 Hz to 350 kHz with a best measurement capability of ± 0.9 dB.

Beam profile and directional characterisation of hydrophones and transducers capable of resolving beam pattern side lobes 30dB below the peak amplitude, throughout the 250 Hz to 350 kHz frequency band.

Source levels of up to 190dB re 1μ Pa @1m supported.

Measurement stations capable of deploying devices weighing up to 1500 kg in air, and load lengths of up to 6 m.

Routine deployment to depths of 6 m with bespoke configurations enabling extended flexible-coupling deployment to 10 m.

Two pairs of transducer mounting stages, each pair equipped with vertical adjustment and horizontal, i.e., transducer separation adjustment, and with at least one stage in each pair providing 360° rotation for beam pattern measurements.

Provision of cross-station configuration to provide separation distances of up to 24 m.

Acoustic time-of-flight capability to determine in-water separation at deployment depth between devices.

Cranes and davits for handling and manoeuvring of equipment and instrumentation.

Electrical impedance measurements covering the frequency range 40 Hz to 1 MHz.

Measurement procedures must be consistent with those described in IEC60565.

240V in the Site Office and on the Raft.

440V 3 phase on the raft facility.

VHF Licences held by core staff for operational activities on the reservoir.

Open Tank Facility (OTF)

Laboratory calibration tanks housed in a controlled environment provided year-round temperature stability.

Three stage high-precision positioning system providing with XYZ and θ Z motion.

UKAS accreditation to ISO17025 for transmit and receive sensitivity calibrations over the frequency range 500 Hz to 1000 kHz with a best measurement capability of ± 0.5 dB.

UKAS accreditation to ISO17025 for beam profile and directional characterisation of hydrophones and transducers.

The positioning system must be capable of handling in-air loads of up to 20kg.

Acoustic Pressure Vessel (APV)

Simulation of ocean depths of up to 700 m [6,9 MPa or 1000 psi] with a variable pressurisation rate of up to 1.5 MPa per min.

Water temperatures in the range 2 °C to 35 °C

External Dimensions 2.5 m diameter and 7.6 m long providing internal volume of 1.93 m diameter and 4.0 m long.

Two rapid access ports 0.8 m and 0.5 m in diameter.

Device under test weight of up to 350 kg.

Transmit and receive sensitivity calibrations over the frequency range 2 kHz to 350 kHz with a best measurement capability of ± 0.9 dB.

Beam profile and directional characterisation of hydrophones and transducers.

Low Frequency Calibration in a Closed Coupler

UKAS accreditation to ISO17025 for calibrations of hydrophones (receive sensitivity) in the range 25 – 315 Hz with a best measurement capability of ± 0.5 dB.

Calibration of digital autonomous recorders over the range 25 – 315 Hz.